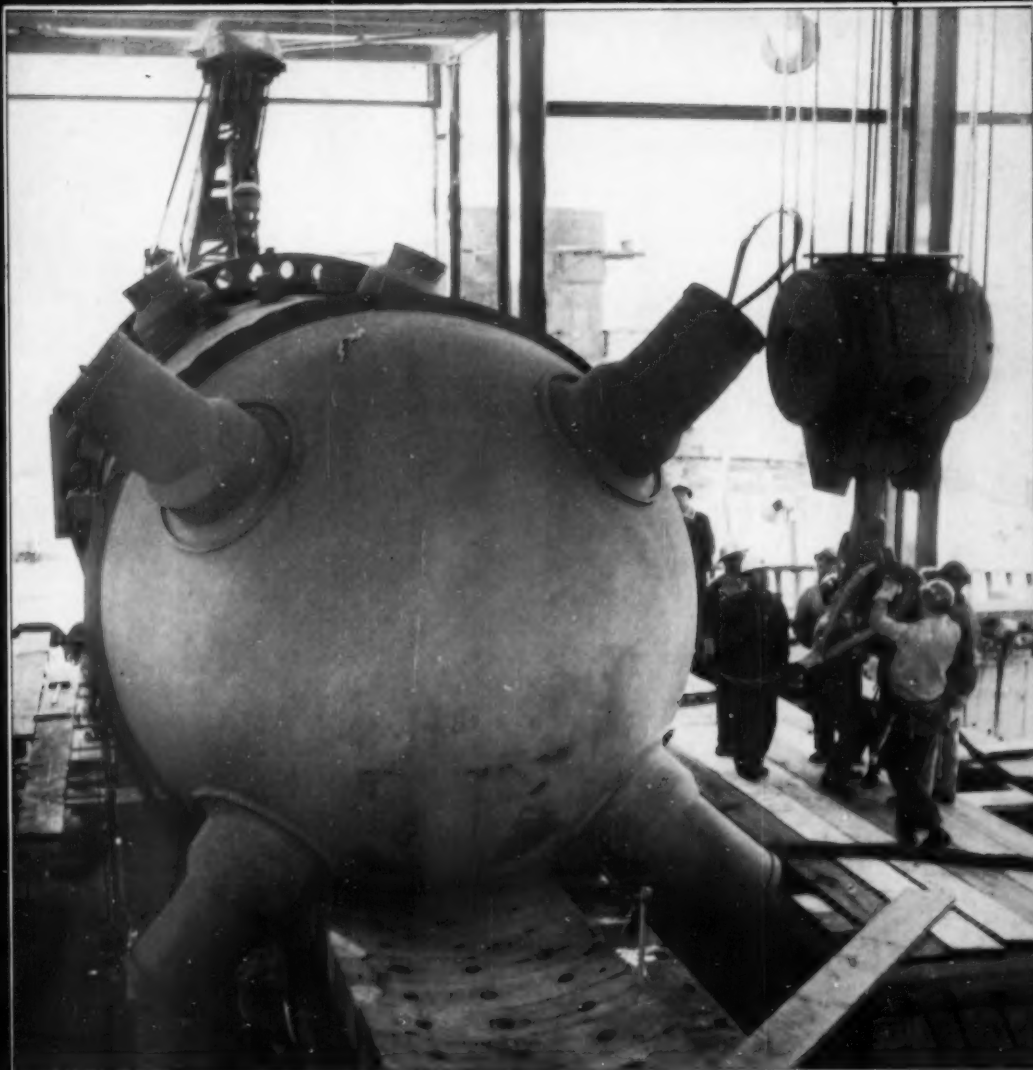
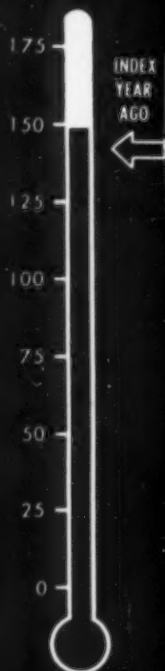


# BUSINESS WEEK



Shippingport's power reactor: U.S. entry in an international race (page 111)

A MCGRAW HILL PUBLICATION

OCT. 27, 1956

E. B. BOHRER  
UNIVERSITY MICROFILMS  
SERIALS ACQUISITION  
300 N. ZEEB ST.  
ANN ARBOR MICH 48106



## *They thought it was alive*

ON their second voyage to the New World, Columbus and his sailors saw Indians playing with balls that bounced with such resilience that the startled Europeans thought they were alive.

Those strange jumping balls, of course, were made of rubber, which has become a basic tool of our own era—so essential that our scientists learned how to synthesize it from domestic raw materials. Their success can be seen in the qual-

ity of Shell Chemical's synthetic rubber, which for many requirements is superior to any that comes from a tree.

Shell synthetic rubber, in a variety of solid and liquid types, fills the needs of Western manufacturers for a raw material indispensable to the continued growth of industry.

### Shell Chemical Corporation

*Chemical Partner of Industry and Agriculture*

TORRANCE, CALIFORNIA





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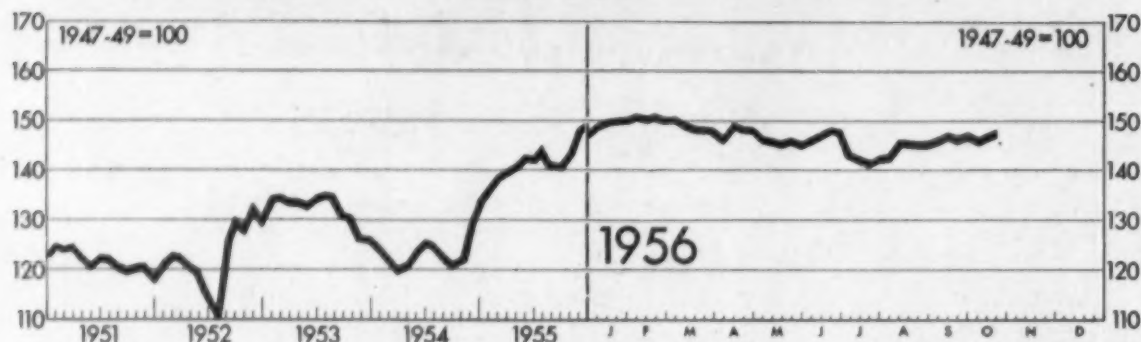
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# FIGURES OF THE WEEK



## BUSINESS WEEK INDEX (chart)

1946 Average	Year Ago	Month Ago	Week Ago	† Latest Week
91.6	145.0	147.1	†147.4	*148.4

### PRODUCTION

Steel ingot (thous. of tons).....	1,281	2,413	2,502	†2,495	2,489
Automobiles and trucks.....	62,880	169,191	52,718	†96,986	121,288
Engineering const. awards (Eng. News-Rec. 4-wk daily av. in thous.).....	\$17,083	\$61,020	\$64,369	\$75,471	\$78,264
Electric power (millions of kilowatt-hours).....	4,238	10,644	11,482	11,300	11,333
Crude oil and condensate (daily av., thous. of bbls.).....	4,751	6,753	7,063	6,990	6,997
Bituminous coal (daily av., thous. of tons).....	1,745	1,635	1,775	1,735	1,705
Paperboard (tons).....	167,269	292,172	272,890	279,692	276,397

### TRADE

Carloadings: miscellaneous and L.C.I. (daily av., thous. of cars).....	82	79	76	76	77
Carloadings: all others (daily av., thous. of cars).....	53	59	61	60	60
Department store sales index (1947-49 = 100, not seasonally adjusted)....	90	128	130	127	134
Business failures (Dun & Bradstreet, number).....	22	239	262	259	254

### PRICES

Spot commodities, daily index (Moody's, Dec. 31, 1931 = 100).....	311.9	400.4	425.7	418.0	417.1
Industrial raw materials, daily index (BLS, 1947-49 = 100).....	†173.2	97.5	98.7	97.7	97.4
Foodstuffs, daily index (BLS, 1947-49 = 100).....	†175.4	77.6	82.4	81.1	81.3
Print cloth (spot and nearby, yd.).....	17.5¢	19.6¢	18.6¢	19.4¢	19.3¢
Finished steel, index (BLS, 1947-49 = 100).....	†176.4	154.5	168.6	168.6	168.6
Scrap steel composite (Iron Age, ton).....	\$20.27	\$44.50	\$58.17	\$56.17	\$56.83
Copper (electrolytic, delivered price, E & MJ, lb.).....	14.045¢	43.115¢	39.945¢	39.881¢	39.325¢
Wheat (No. 2, hard and dark hard winter, Kansas City, bu.).....	\$1.97	\$2.22	\$2.29	\$2.29	\$2.29
Cotton, daily price (middling, 1 in., 14 designated markets, lb.).....	**30.56¢	34.49¢	33.12¢	33.20¢	33.17¢
Wool tops (Boston, lb.).....	\$1.51	\$1.70	\$1.91	\$1.90	\$1.90

### FINANCE

90 stocks, price index (Standard & Poor's).....	135.7	338.3	366.5	370.9	366.7
Medium grade corporate bond yield (Baa issues, Moody's).....	3.05%	3.59%	4.11%	4.16%	4.17%
Prime commercial paper, 4 to 6 months, N. Y. City (prevailing rate).....	¾-1%	2¾%	3½%	3¾%	3¾%

### BANKING (Millions of Dollars)

Demand deposits adjusted, reporting member banks.....	†145,820	56,293	55,908	55,289	55,623
Total loans and investments, reporting member banks.....	†171,916	85,542	85,843	85,338	86,066
Commercial and agricultural loans, reporting member banks.....	†19,299	25,082	29,694	†29,833	29,836
U. S. gov't guaranteed obligations held, reporting member banks.....	†149,879	30,941	26,383	25,732	26,392
Total federal reserve credit outstanding.....	23,888	26,169	25,852	25,707	25,810

### MONTHLY FIGURES OF THE WEEK

	1946 Average	Year Ago	Month Ago	Latest Month
Cost of Living (U. S. Dept. of Labor BLS, 1947-1949 = 100).....September.....	83.4	114.9	116.8	117.1

\* Preliminary, week ended October 20, 1956.  
† Revised.

†† Estimate.  
\*\* Ten designated markets, middling 16 in.

‡ Date for 'Latest Week' on each series on request.

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# Washing a bridge used to be dangerous business



Photo: San Francisco-Oakland Bay Bridge. High-pressure cleaner made by Malibary Manufacturing Co., Oakland, Calif.

## *A typical example of B. F. Goodrich improvement in rubber*

ONE of the little black lines you can hardly see in the picture, running up to the scaffolding where the men are, is a piece of equipment that used to be very dangerous—a steam hose that could burst!

Workmen wash off dirt, salt and grease with high-powered streams of superhot solution before painting. But heat used to weaken steam hose. It sometimes burst with explosive force, spraying scalding steam, seriously injuring workmen.

B. F. Goodrich men wanted to make a hose that was completely *burstproof*. They developed a new kind of heat-resisting rubber which they used inside the hose, and between the plies. Then they developed layers of fine braided steel wires for reinforcement.

The hose lasts longer than any steam hose ever made before. Not one length has ever been known to burst. Even if a hose wears out after years of service, steam can leak out but it cannot explode. This B. F. Goodrich hose is 30 per cent lighter than steam hose used to be. It's more flexible, easier for workmen to handle. Its rubber cover stands more scuffing, resists abrasion better than steel.

Your B. F. Goodrich distributor has exact specifications for the B. F. Goodrich hose used in this bridge-cleaning job and exact specifications for products featured in dozens of other B. F. Goodrich success stories. B. F. Goodrich makes conveyor belting, V belts, flat transmission belts, hose to carry air, water, gasoline, paints, chemicals, even dry materials such as flour, cement or brick chips. If you don't know your nearest distributor, write B. F. Goodrich Industrial Products Co., Dept. M-792, Akron 18, Ohio.

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## READERS REPORT

### Ultrasonic Welding

Dear Sir:

We have read with interest the article entitled *Shaking Metals Into a Weld* [BW—Sep. 8 '56, p91]. From what we have heard and seen to date there is no doubt that this new intriguing welding technique will find an increasingly important place in the metal fabricating industry.

We would like, however, to take exception to a statement made in this article i.e. "The ultrasonic process makes possible the welding of copper to aluminum—not now feasible—and this will have important applications in the electrical field."

The Koldweld process [BW—Oct. 29 '49, p64—Pressure Welding] among others has for years been able to weld aluminum to copper in addition to other non-ferrous combinations.

Not only are a number of our licensees making aluminum to copper Koldwelds successfully, but the Utica Drop Forge and Tool Co. has available a standard line of Koldweld tools and dies for producing such bi-metal joints in sheet, foil, wire, rod, and other shapes. . . .

VERNE CLAIR, JR.  
KOLDWELD CORP.  
NEW YORK, N. Y.

### Boosting Investment

Dear Sir:

Your editorial entitled *A Boost for Private Investment Abroad* [BW—Oct. 6 '56, p200] seems to me to overlook one very important point.

The institution which you say will give a boost for private investment abroad is the International Finance Corp., which, you also mention, has received its funds from 33 governments.

The question that occurs to me is this: By what method of reasoning do you arrive at the conclusion that private investment abroad is being encouraged by the appropriation of funds by the government—funds which private investors might have used for enterprises abroad?

When it comes to a matter of investing funds, where do the people in the International Finance Corp. get the superior judgment that justifies their appropriating the incomes and savings of private citizens, who sometimes have also





**1 PUNCHING**—Presses used for punching holes, knockouts, and stamping small parts are strategically located throughout our plants. Some of them run at a rate of 108 strokes a minute, and their capacity runs up to 250 tons. Small boiler-jacket parts are being stamped here for United States Radiator Corporation.



**2 SHEARING**—Berger shears operate from 40 to 60 strokes a minute. They will cut sheet steel up to 14' on the shortest dimensions, and medium-hard stock up to  $\frac{3}{4}$ ". Operators above are shearing sheet steel that will be processed into boiler jackets for the United States Radiator Corporation.

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Our large stock of standard tools and dies and the specialized equipment of our Berger Plants are available to you. Often we can reduce costly tooling investments be-

cause we already have the tools to do the job. Because you use our facilities, you can eliminate the overhead problems of building or expanding your plant.

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**3 FORMING**—Brakes running at speeds up to a stroke a second range in capacity from 60 to 500 tons making possible production of a variety of items and gages simultaneously. Operators shown here are forming boiler jacket backs. The next step will be the welding department.



**4 WELDING**—Berger's major plant facilities include the very latest welding equipment and techniques. For every requirement there's a specific unit located to do the best job most economically. Eighty-eight welding units are available. The operator above is spot-welding stiffener channels.



**5 PAINTING**—We're equipped to paint over 87,000 square feet of steel surface each hour. Equipment includes mechanical bonderizers and degreasers for cleaning mill stock parts; 32 spray booths, six mechanical dip tanks . . . plus 40 baking ovens to assure beautiful, lasting, baked-on finish. And we can match your sample for color.

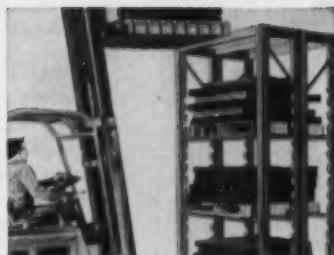


**6 PACKING AND SHIPPING**—Boiler jackets are shipped in cartons, knocked down. Packing equipment includes newest machines for cratemaking and automatic nailing. Beyond our doors, more advantages—you are shipping from centrally located Canton, Ohio.

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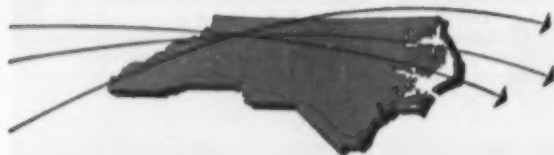
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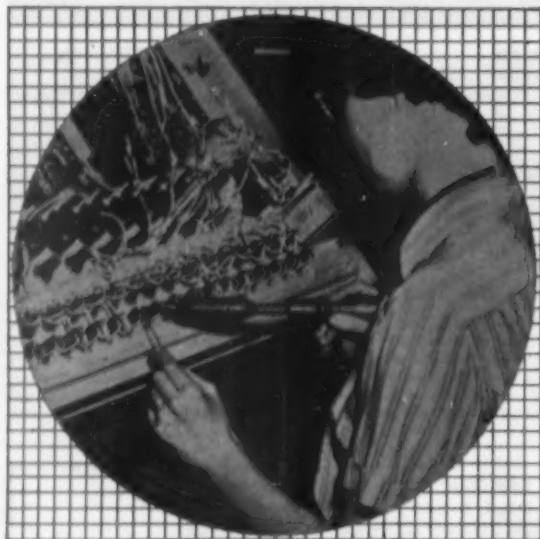


Western Electric started hiring for its first North Carolina plant in 1946. Evidence that it has found a healthy climate for growth is shown by continually increasing investments in facilities and personnel, with a network of plants now spread over three different cities.

The North Carolina Works produce electronic equipment — some of it the most complex manufactured by Western Electric at any of its many plant locations.

Almost fifteen per cent of its North Carolina workers are in engineering jobs. A large percentage has come from colleges and universities in the State. Others of the 11,000 total employees have been obtained from North Carolina's vast pool of willing and able workers. Western Electric management has commented most favorably upon the character and "trainability" of the workers it found here.

A businesslike State government and many friendly communities invite you to share the bright future of North Carolina, where pleasant living is a key to industrial productivity. We'll gladly supply more information — in confidence, without obligation. Phone, wire or write today.



*Illustrated Booklet*

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William P. Saunders, Director  
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**NORTH CAROLINA**  
YEAR 'ROUND MID-SOUTH



## How welded piping helps give pop a lift

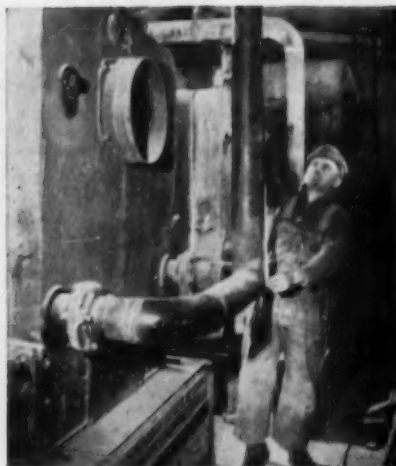
Dad's "fresher upper" . . . that cool bottle of pop . . . gets its energy from liquid sugar. This sweetener, in ready-to-use form is popular with today's bottlers (as well as canners and ice cream makers) because it greatly reduces handling and processing time and saves them money. Liquid sugar manufacturing is an automated process in which *welded piping* keeps product flow at the peak of perfection and efficiency.

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®TUBE-TURN® and "tt" Reg. U. S. Pat. Off.



**A LIFT FOR THE PROCESSOR.** Part of the streamlined, permanently leak-proof welded aluminum piping systems that keep quality up, costs down at Refined Syrups & Sugars, Inc., Yonkers, N. Y. This pioneer producer of "Flo-Sweet" liquid sugar uses TUBE-TURN Welding Fittings and Flanges for top quality piping.



**A LIFT FOR THE TOURISTS.** Stations along the New York Thruway are well equipped with hot water for tourists' comfort. Heating facilities employ welded piping and TUBE-TURN Welding Fittings for safety and permanently leakproof service. Heating Contractors: Joseph Davis, Inc., Buffalo.



**A LIFT FOR YOU.** You get exactly what you need *promptly* from your nearby Tube Turns' Distributor. Call him for complete-line service. He will make available the engineering help of Tube Turns on piping problems. Photo: Courtesy Taylor Supply Co., Detroit.



# TUBE TURNS

A DIVISION OF NATIONAL CYLINDER GAS COMPANY  
LOUISVILLE 1, KENTUCKY





## "Out of the Mud" or "Out of the Muddle"

### You can depend on Concrete

Forty years ago America was pulling itself out of the mud. Today it is lifting itself out of a traffic muddle. Now, as then, concrete pavement is the dependable, *low-annual-cost* answer to the problem.

Illinois celebrated its first Good Roads Day in 1914. To commemorate the event a motorcade made the grueling 12-hour trip from Chicago to Sterling, Illinois, in flying gravel and choking dust.

Forty-two years later a motorcade of antique cars made the same trip, now possible in 3 hours, in rain. Looking down on the new Congress Street Expressway, Chicagoans saw an amazing spectacle—ancient cars on the most modern of highways.

Farther west, near Geneva, the old cars rolled over a four-lane section of U.S. 30, two lanes of which were built in 1918, two in 1931—all still giving good service at *low annual cost*.

Even better performance can be expected of the concrete pavements being built in the gigantic national highway construction program now under way. Today's smoother-riding concrete roads have a life expectancy of at least 50 years. Concrete serves far longer than any other pavement. It costs much less to maintain. And it is the safest pavement, wet or dry, night or day. Write for free illustrated booklet, distributed only in the United States and Canada.

## PORTLAND CEMENT ASSOCIATION

Dept. 10d-12, 33 West Grand Avenue, Chicago 10, Illinois

A national organization to improve and extend the uses of portland cement and concrete... through scientific research and engineering field work

been known to be astute and intelligent?

It has become common these days to gloss over the stealing that occurs when a government appropriates from its citizens the funds it wants for the projects which suit its fancy. This is moral disintegration—and it is time we learned to discriminate better.

KEITH S. WOOL

PRESIDENT

WOOD BROTHERS MFG. CO.  
OREGON, ILL.

• The International Finance Corp. has been set up to stimulate the flow of private capital abroad, which has been much below expectations. The amount of money that IFC plans to invest, either in individual enterprises or in total, is not large. But as its investments will be in partnership with private investors, the total amount will be substantial. IFC makes no claim of possessing superior judgment, but it hopes, by making profitable investments solely in private enterprise, to show that such ventures are worthwhile.

We consider that if the IFC's performance leads to a greater flow of private investment, it will be making a constructive contribution on behalf of private investors. And if it shows a profit, it will not cost taxpayers anything at all.

## Someone Else's Views

Dear Sir:

The article An Old Threat Takes a New Twist [BW—Sep. 15 '56, p67] contains statistics on the earnings of skilled construction workers relative to earnings in manufacturing during two wartime inflations. You attribute these figures to Professors Arthur Ross and William Goldner. Actually, they are taken from an article by Stephen Sobotka in the JOURNAL OF POLITICAL ECONOMY for April, 1953.

I make this correction both to give Dr. Sobotka credit for his work and to dissociate Professors Ross and Goldner from views of Sobotka's and mine which they may not share.

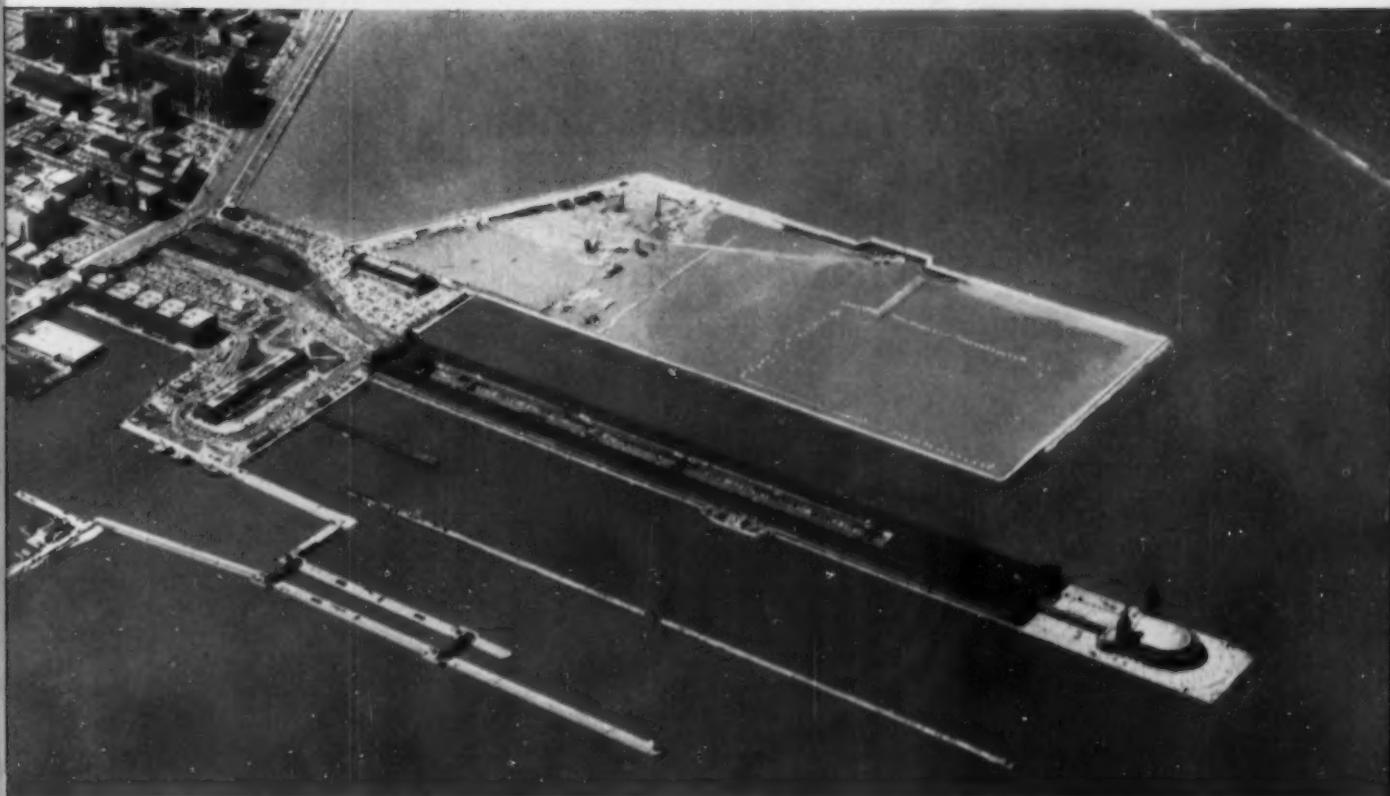
ALBERT REES

DEPT. OF ECONOMICS  
THE UNIV. OF CHICAGO  
CHICAGO, ILL.

Letters should be addressed to Readers Report Editor, BUSINESS WEEK, 330 West 42nd Street, New York 36, N. Y.



**Gardner-Denver . . . Serving the World's Basic Industries**



Site of Chicago's new filtration plant, where Gardner-Denver portable compressors are sinking shafts to water tunnel level.

## From this dusty "island"...water for 3 million

On this dry, sunken island in Lake Michigan, Chicago is building a plant to provide filtered water for three million more residents. From an immense reservoir here, water will flow through a six-mile tunnel, as deep as 220 feet below lake level, into existing water mains.

Gardner-Denver rotary portable compressors and rock drills are helping to sink five 250-foot shafts down

to the tunnel level. On big projects like this, time schedules are vital. So are budgets.

That's why construction giants so often include Gardner-Denver portable compressors and rock drilling equipment in their plans. They know Gardner-Denver dependability will help hold rigid time and cost budgets. Gardner-Denver Company, Quincy, Illinois.

At the northern end of Chicago's water tunnel, Gardner-Denver 600 rotary portable compressors supply compressed air for shaft-sinking.

Increasing the nation's oil reserves by giving a new lease on life to old oil wells is an important job for this Gardner-Denver water flood pump.

Productive capacity on big assembly lines is greatly increased when Keller Tool multiple nut setters provide automatic torque tolerance control.



# **GARDNER - DENVER**

THE QUALITY LEADER IN COMPRESSORS, PUMPS, ROCK DRILLS AND AIR TOOLS  
FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

"We saved \$40,000 on glass costs with  
**American LUSTRACRYSTAL**\*"

"And it more than satisfies  
all glazing requirements"

#### AMERICAN PRODUCT LINE

American manufactures sheet glass with the least distortion and the greatest clarity, whiteness and luster.

**LUSTRAGLASS**—single and double strength for conventional glazing.

**LUSTRACRYSTAL**—economical heavy sheet glass for larger openings and many other applications.

**MAX. SIZE**—72" height x 120" width. Information on larger sizes available on request.

**THICKNESS**— $\frac{1}{8}$ ",  $\frac{3}{16}$ ",  $\frac{1}{4}$ ".

**LUSTRAWHITE**—a picture glass of exceptional clarity and flatness.

**LUSTRAGRAY**—for better television viewing; and special glazing.

**BULB EDGE GLASS**—for use as counter dividers, wind deflectors and shelves.

**THIN GLASS**—for microscope slides and covers. Extremely flat and true to tolerance.

**SUPRATREX**—a laminated safety glass.

**PANAL**—a fiberglass-reinforced plastic structural panel.

**WATCH OUR PRODUCT FAMILY GROW**

Economy-wise architects and builders have reported savings at the rate of \$40,000 and more per job on glass costs for office buildings, apartments, etc., by using fire-polished AMERICAN LUSTRACRYSTAL instead of plate glass.

AMERICAN LUSTRACRYSTAL is being specified and used because it is the sheet glass closely comparable to plate glass in freedom from distortion, and it is superior to plate glass in other glazing requirements:

- **Economy**—saves about 40% on glass costs.
- **Strength**—more resistant to wind pressure, impact breakage and surface abrasion.
- **Clarity**—transmits more visible light.
- **Luster**—fire-polished surface gives more sparkle and beauty.

On your new building, save substantially on glass costs—use AMERICAN LUSTRACRYSTAL.

MODERN GLASS  
*Best at a Glance*



**American**  
WINDOW *Glass* COMPANY  
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JEANNETTE, PA. • OKMULGEE, OKLA.



**When a customer asks a question,  
give him the answer fast—by telephone**

**LONG DISTANCE RATES ARE LOW**

*Here are some examples:*

Detroit to Cleveland . . . . .	55¢
New York to Boston . . . . .	75¢
Houston to New Orleans . . . .	\$1.05
Milwaukee to Washington, D.C. .	\$1.40
Chicago to Denver . . . . .	\$1.90

These are the daytime Station-to-Station rates for the first three minutes. Add the 10% federal excise tax.

*Call by Number. It's Twice as Fast!*

You build good will—and sales as well—when you answer inquiries by telephone.

Customers appreciate the fast, personal attention you give them. Immediate, two-way contact puts you a big step ahead of competition.

Why not put this idea to work and keep a record of results? If your company is like most others, you'll find that answering inquiries by telephone pays big dividends.

**BELL TELEPHONE SYSTEM**

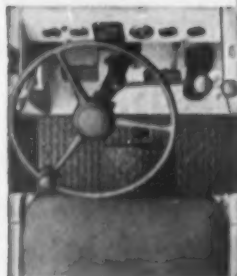


# Your Operator

# *"Steps Lively"* and likes it

## ... with an Allis-Chalmers Fork Truck!

The operator of this Allis-Chalmers 4,000-lb fork truck storing gypsum loth at the New Home Building Supply Co., Greensboro, N. C., is able to "step lively" because his truck drives so easily — maneuvers so well, even in tight quarters.



Important controls are at the operator's finger tips — right where he would like to have them. Gauges are in plain sight — simple and easy to read. Floor is clear, seat can be moved forward or back to suit the operator.

Your operator moves about quickly, spots loads accurately, works relaxed all day. His output is big and steady . . . his contentment is your gain.

These are benefits of the operating ease found in Allis-Chalmers fork lift trucks. Even a green operator does the right thing almost by reflex. He could find the clutch, brake, accelerator and gear shift lever with his eyes shut, for they are positioned like those in his car. The large, 18-inch steering wheel is comfortably positioned and feels "at home" in his hands.

The seat is wide and comfortable, the floor is free of obstructions. Operator can quickly step on or off either side. There is an over-all roomy comfort that seems to stretch a day's output and shorten a day's work.

Examine one of these units at your Allis-Chalmers Material Handling Dealer's. Ask him to show you the long-life features that keep it going at a lively pace with a minimum of maintenance. Write for free descriptive bulletin, "Put Yourself in the Driver's Seat."

MATERIAL HANDLING DEPT., BUDA DIVISION, MILWAUKEE 1, WISCONSIN

# ALLIS-CHALMERS







Royal Cutting Boards



**CHEF'S SPECIALTY...**

## **4300 Meals a Day across the Boards!**

That's what is served in the three main restaurants and coffee shop of New York's mammoth Hotel Roosevelt. "Everything in our kitchen must work at top efficiency", says the chief steward. "That's why we've switched over to U. S. Royal Cutting Boards. They do not warp, nick, splinter or chip and they do not dull the knife blades. Just about every particle of food we serve comes across the U. S. Royal Cutting Boards. This constant traffic of different foodstuffs is no problem, because U. S. Royal Boards are non-porous, do not retain any stains or juices."

Leading hotels, restaurants, hospitals, industrial cafeterias and major meat-packing houses use U. S. Royal Cutting Boards. They are easy to clean—you can wipe them clean with a damp cloth. U. S. Royal comes in many sizes, is light in weight, has a non-skid work surface, and outwears any other type of food board.

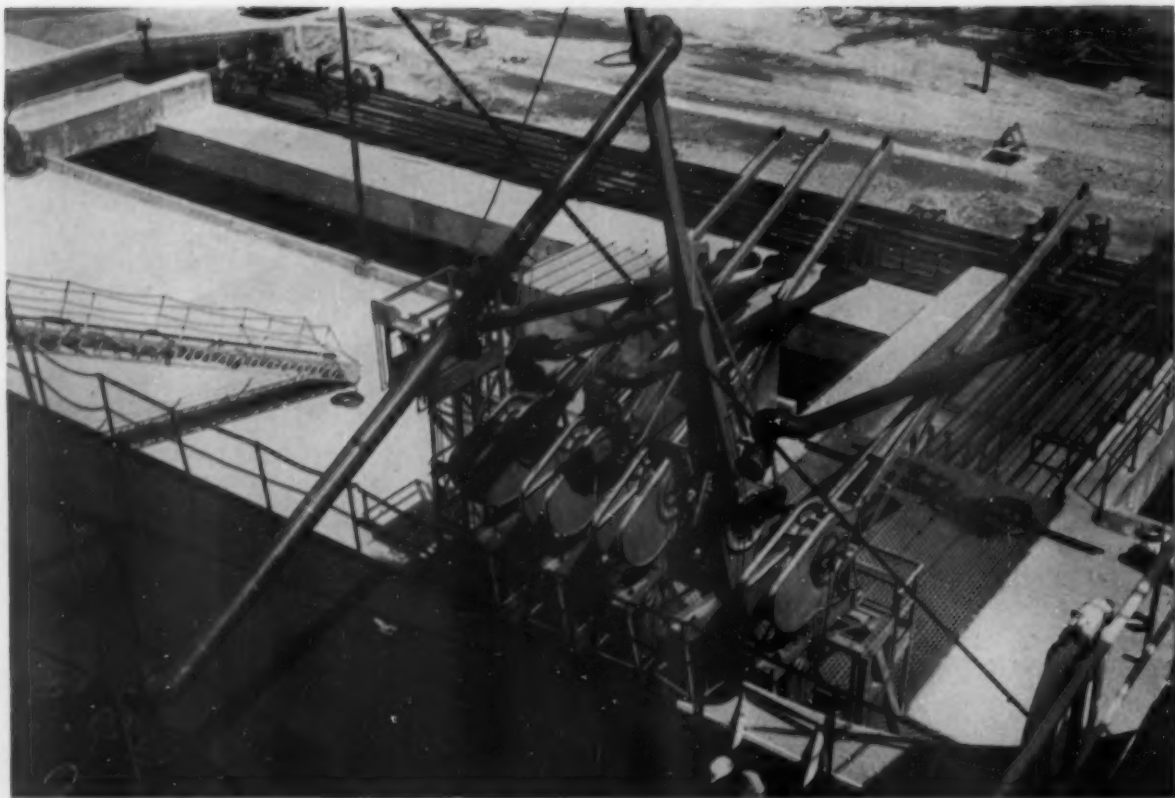
Obtainable at any of the 28 "U.S." District Sales Offices, at selected distributors, or contact us at Rockefeller Center, New York 20, N. Y. In Canada, Dominion Rubber Co., Ltd.



Mechanical Goods Division

# **United States Rubber**





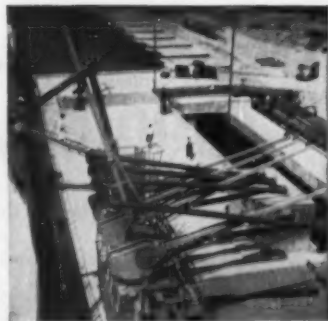
IN SHIPPING—



# **CHIKSAN** MARINE LOADING ARMS

**GIVE A MODERN DAY LIFT TO TANKER LOADING!**

Hooking up hose lines to a tanker is often a rough, dirty, and sometimes dangerous task. However, loading drudgery is becoming just a memory wherever the new Chiksan Marine Loading Arm has gone into service. Heralded by many as the first basic improvement in the loading of marine tankers in over 30 years, the new Chiksan Loading Arm not only insures faster tanker turn-around time, but promises material savings of lost man-hours due to hose handling injuries, insurance and compensation premiums, and expensive rubber hose replacements. Savings within a decade, one customer estimates, will actually amount to the purchase price of a 5-arm unit. For descriptive literature, write Chiksan, Brea, California.



*Where once a crew of seven men labored for 30 minutes to hook up a rubber line, now one man operating hydraulic controls can swing a Chiksan Loading Arm aboard, for hook up, in less than a minute.*

A SUBSIDIARY OF FOOD MACHINERY AND CHEMICAL CORPORATION



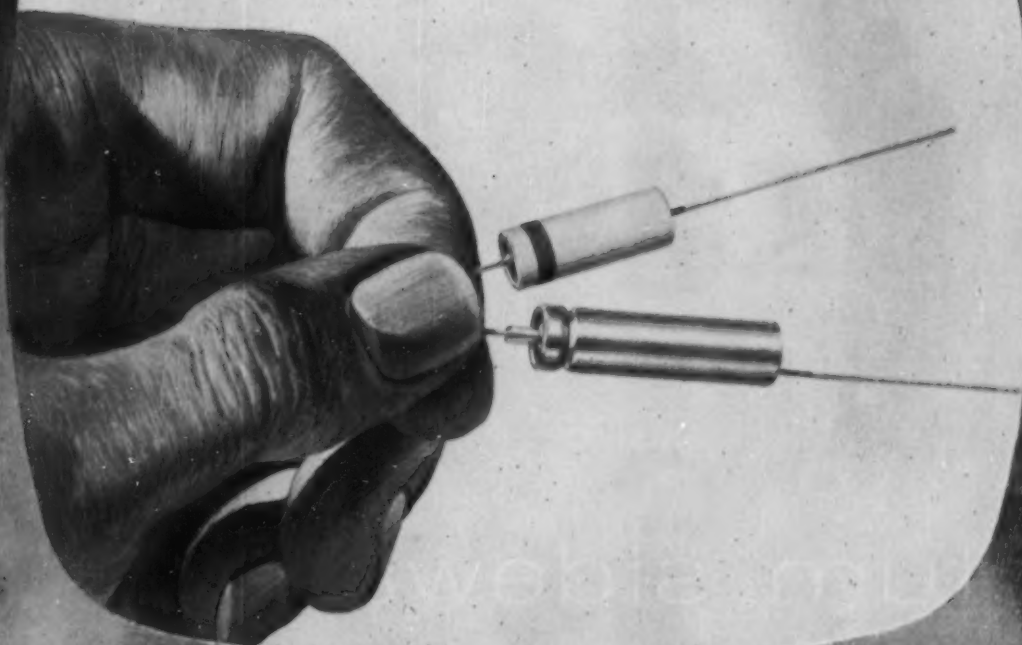
# **CHIKSAN**



**CHIKSAN COMPANY—BREA, CALIFORNIA • CHICAGO 5, ILLINOIS • NEWARK 2, NEW JERSEY**

Well Equipment Mfg. Corp. (Division), Houston 1, Texas • Subsidiaries: Chiksan Export Company • Chiksan of Canada Ltd.

*Look at the AMAZING things  
Alcoa Industrial Foil is doing!*



## **YOUR TV SET WOULD BE TOO BIG FOR THE LIVING ROOM WITHOUT ALCOA ALUMINUM FOIL**

Up to 100 aluminum-foil capacitors (or condensers) are required to put a picture on your television screen—and 100 *more* for color TV. These tiny "power storehouses," some as small as a vitamin capsule, are the technological descendants of the bulky Leyden jar, the original condenser. If built with Leyden jars, your home TV set could be larger than an automobile.

Actually, radio and television as we know them would be impractical—if not impossible—without inexpensive aluminum-foil capacitors. Today's paper capacitors are small because ALCOA® Aluminum Foil can be rolled microscopically thin, and still retain maximum capacity and efficiency. And to-

day's electrolytic capacitors are smaller and last longer because they use high-purity Alcoa Foil—up to 99.9% aluminum.

But you don't have to be an electronics wizard to work wonders with ALCOA Aluminum Foil. You can form it . . . color it . . . twist it . . . combine it with other materials . . . weave it into cloth. For more information, get in touch today with ALCOA . . . greatest name in aluminum.

Write to ALUMINUM COMPANY OF AMERICA, Industrial Foil Division, 1655-K Alcoa Building, Pittsburgh 19, Pa.



**THE ALCOA HOUR**  
TELEVISION'S FINEST LIVE DRAMA  
ALTERNATE SUNDAY EVENINGS



# Tectum sidewall insulation panels

Fairchild Engineering and Aircraft Co., Deer Park, Long Island, New York

## *a new concept in industrial sound control*

**T**HE phenomenal acceptance of Tectum as the ideal material for factory sidewalls stems from one simple fact—Tectum gives you most for your money. Here's why:

- 1. Tectum's unusual capacity for absorbing sound generally does away with the need for additional, costly acoustical treatment.**
- 2. Tectum lowers heating and cooling costs . . . provides greater year 'round comfort.**
- 3. Tectum makes possible the use of less expensive outer skin because of its exceptional structural strength.**
- 4. Tectum is rated noncombustible . . . reduces fire hazard along with insurance rates.**
- 5. Tectum goes up in a hurry. Simple erection techniques keep labor costs down.**
- 6. Tectum's natural off-white surface requires no paint, but can be painted without loss of acoustical value.**

If your plans call for new factory buildings, consult your architect or nearby Tectum distributor. Or write,

Tectum Division, Peoples Research and Manufacturing Company, 812 South Sixth Street, Newark, Ohio, for an interesting and informative Sidewall Insulation Panel Bulletin.





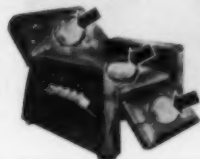
**JOHN S. HEWITT**  
President  
Anahist Co.

"My Niagara Cyclo-Massage chair is wonderful...relieves tension and fatigue in no time at all."

**John S. Hewitt**

"There's nothing quite like a leisurely 'ride' in one of the new Niagara Chairs. In the middle of the day, I like to lean back in mine and let the cyclo-massage motors relax tired muscles and nerves. The Niagara Chair is a wonderful aid to comfort and health...and it would, I think, be a delight to any busy executive."

If you want the sensation of a lifetime, just sit in the handsome Niagara Chair, with its three built-in Cyclo-Massage® motors. Ease back to your most comfortable position, turn on the motors, and...aaahhh...that's *it*. Cares and wears of mind and body float away. You are but half conscious of a marvelous action, like thousands of tiny fingers gently stroking, kneading, reaching deep, **DEEP** down to manipulate and comfort every muscle and joint in your body.



Buried in deep foam rubber are three Niagara Cyclo-Massage Motors.



Specifically, with the Niagara Chair, you can increase circulation, help ease nervous tension, help yourself rest and relax and improve your physical condition—easily, comfortably—while you read or rest, at home or office. Nearly three years of clinical testing in many outstanding teaching hospitals and

medical schools confirms these highly beneficial physiologic effects of Niagara Cyclo-Massage.

You really owe it to yourself to try the Niagara Chair, or, at least, to find out more about it. Just return the coupon for additional information including a beautiful, full-color descriptive booklet.

**Niagara is a unique, ideal Christmas Gift—  
and there's still time to order**



The Niagara Executive Cushion, distinctively designed for use on desk chair, to help relieve tension and fatigue while you work.

The Niagara Thermo-Cyclopad, combining heat and massage to help relieve pain of arthritis, bursitis, rheumatism...many types of pain.



The Niagara Chair, the Executive Cushion, and the new Thermo-Cyclopad—three models of the complete line of Niagara Cyclo-Massage products—are remarkably well suited as "good will" gifts for that very special customer or business associate. They're new, different, practical, will last a lifetime, will be used every day, and will help promote better health. *What better qualifications could a gift have?*



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CORP.

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**COMPLETE**  
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## LICKING THE FARM PROBLEM for Mr. Jones

A city man like Mr. Jones might not know that American farmers raised a bumper crop of insects this year.

Aphids, termites, grub worms, borers, fruit flies, locusts—the ancient agricultural enemies—turned up in hopping, hungry legions. For farmers fighting the \$4 billion yearly loss they cause, the strongest allies are new chemical “hired hands,” many of them from Hooker.

Planes winging over thousands of acres in California, Texas and Oklahoma, spray a grasshopper-killing fog made with a Hooker chemical.

Dairy farmers protect livestock, and

product purity, with powerful anti-fly sprays made from lindane—a chemical pioneered by Hooker.

The codling moth and voracious corn borer—your competitors for the juiciest apples, sweetest corn of the season—are licked by sprayings of DDT, made with Hooker monochlorobenzene.

The same weather that unleashes insect hordes also promotes the growth of undesirable weeds and brush. Young fir trees in timber nurseries threatened by a smothering growth of brush, find room to breathe, thanks to selective sprays made with Hooker 1, 2, 4, 5-te-

trachlorobenzene. Mesquite, choking grazing areas, vanishes under the same treatment. Weeds that rob soil of nutrients and water are controlled by herbicides made from still other Hooker chemicals.

These are just a few of the “chores” Hooker chemicals do swiftly and cheaply for farmers. They’re good reasons why all the industries supplying the farmer’s needs depend increasingly on Hooker chemicals and Hooker research to help. Write *Hooker Electrochemical Company, 110 Forty-seventh St., Niagara Falls, N. Y.*

### HOOKER ELECTROCHEMICAL COMPANY

110 Forty-seventh St., Niagara Falls, N. Y.

NIAGARA FALLS • TACOMA • MONTAGUE, MICH. • NEW YORK • CHICAGO • LOS ANGELES

DUREZ<sup>®</sup> PLASTICS

WIALZ<sup>®</sup> CHEMICALS

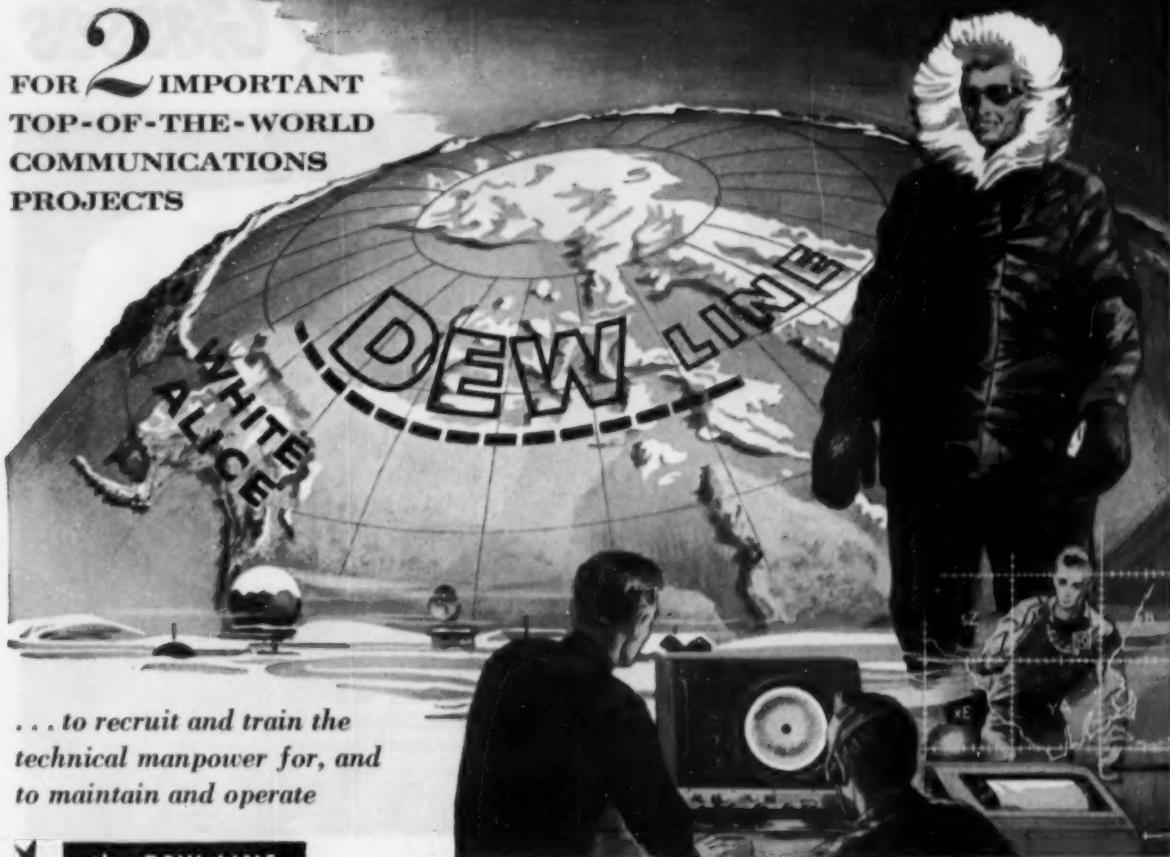


G-1000



**ITT***has been selected*

FOR **2** IMPORTANT  
TOP-OF-THE-WORLD  
COMMUNICATIONS  
PROJECTS



*... to recruit and train the  
technical manpower for, and  
to maintain and operate*

**the DEW LINE****WHITE ALICE**

#### **Young Men**

Outstanding career opportunity for qualified men in Electronics, Transportation and Supply or Diesel and Mechanical fields. Send resume of previous experience and education to: Personnel Director, Federal Electric Corporation, Box 347, Lodi, New Jersey.

Two of the greatest Arctic construction jobs ever attempted are drawing to a dramatic climax.

One, the Distant Early Warning (DEW) Line, will flash the first warning of an enemy approaching from the north. It is America's latest answer to the challenge of maintaining world peace.

The other, Alaska Integrated Communications Exchange (White Alice), is a vital network including "over-the-horizon" and "line-of-sight" microwave links connecting isolated communities and defense installations across Alaska, as well as existing telephone and telegraph services.

Manpower of the highest order in skills, stamina and intelligence is imperative. The U. S. Air Force has selected Federal Electric Corporation, a subsidiary of International Telephone and Telegraph Corporation, to operate and maintain both these far-flung installations.

Federal Electric Corporation's experience on military assignments in the Arctic ... in the maintenance of specialized navigational equipment for the Air Force ... as a field service and maintenance organization for IT&T's laboratories and factories ... coupled with the world-wide experience of IT&T, make this an ideal partnership for so broad and technical an undertaking.



INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION, 67 Broad Street, New York 4, N. Y.

Now Another AO—"First"!

# Balanced Vision in Safety & Glasses



Now . . . American Optical is proud to announce an outstanding development in vision and safety . . . CLEAR AND CALOBAR CORRECTIVE CURVE SUPER ARMORPLATE TILLYER LENSES.

## AO Ultrascopic Safety Glasses with Balanced Vision are the Ultimate in Eye Protection

There are over 420 combinations in the American Optical line of metal (F5100 series) and plastic (F9500 series) safety glasses. You can give every worker the type of eye protection he needs. You can fit any worker. SEE THESE SAFETY GLASSES WITH BALANCED VISION — call your nearest American Optical Safety Products Representative.

### The Big Benefit is BALANCED VISION

With "compensated" or balanced vision throughout the lens, the worker obtains optimum seeing qualities from his glasses whether he looks up, down, laterally or straight ahead. Naturally, this "balanced vision" will increase visual efficiency and safety on the job . . . reduce production and eye accident costs. This advance is available in all regular prescription ranges.



DR. EDGAR D. TILLYER,  
internationally recognized  
Dean of Ophthalmic  
Lens Design.

## Facts about the AO TILLYER Principle of ADJUSTED CORRECTION

Lenses which interpret the services of the ophthalmic profession should be constant in  $R$  power from center to edge. Such constant  $R$  power depends upon achieving a balance between marginal sphere and cylinder characteristics of the

lens. For over thirty years the Tillyer Principle has been the accepted standard in achieving this balance. Now, new computations make it possible to apply the well-known Tillyer principle to safety thickness S.A.P. Lenses.

Electronic computing gives a new scientific dimension to lens perfection. This advance for the first time is adapted to safety lenses and is now available with American Optical eye protection equipment.

American Optical  
COMPANY  
SAFETY PRODUCTS DIVISION

Always insist on  
the AO trademark  
on lenses and  
frames.

Write for descriptive literature just off the press!

SOUTHBRIDGE, MASSACHUSETTS • BRANCHES IN PRINCIPAL CITIES

# BUSINESS OUTLOOK

BUSINESS WEEK

OCT. 27, 1956



Auto dealers started this week very nearly cleaned out of cars.

They had sold (at a price) all but a few of the very worst dogs among the 1956's. And they were having trouble hanging onto enough of the limited number of 1957's for display purposes.

So buyers will get little choice of model or color for the next several weeks—unless they are willing to stand in line for a while.

Scarcity—or relative scarcity—of new cars may have queer effects on customers. Demand surely will feel strange crosscurrents.

- Tight supply will intensify yearnings in those who have waited. This is the first appetite-whetting shortage in a long time.

- But tight supply also will dismay some prospects, maybe even turn them away. Deals, for a while, won't be lush. This could in effect add \$200 or \$300 to actual sales prices—on top of the \$50 to \$100 officially tacked onto list prices of many models.

Inventories of new cars in dealers' hands will, of course, build up gradually from now on.

Yet production-line bugs always sap output in an extensive model change. Those bugs have chewed more than 100,000 off originally scheduled output of 510,000 cars for October—holding the month below 400,000.

This lag probably has been accentuated by Detroit's determination to clear the decks before launching the new lines.

It now seems improbable that fourth-quarter output of new cars can exceed 1,650,000. And even if retail sales should run 10% behind a year ago, they would still go over 1½-million.

Allow about 75,000 for exports and other unregistered sales, and the quarter's addition to dealer stocks would be only 50,000 to 75,000.

This means not many more than 400,000 cars in showrooms on Jan. 1 (for stocks were down to about 350,000 on Oct. 1).

This is about half what dealers had on hand going into 1956.

Selling autos in 1956 has been pretty rough on a lot of people. Yet the final results, when they are in, won't look bad in perspective:

- Output should be fourth best—between 5.8-million and 5.9-million, exceeded only by the years 1950, 1953, and 1955.

- Sales to domestic customers—actual registrations—will be third best at just a little under 1950's 6,326,438; that looks bad only in comparison with the extraordinary record of 7,169,908 for 1955.

—•—  
You don't see in steel any such slack as still persists in some of the nonferrous metals.

Steel output holds above rated capacity. Sales executives, already pressed to handle available business, see no letup (page 33). The belief is that the full pressure of auto needs has yet to make itself felt.

This is the kind of steel market in which prices could go up any time (any time, that is, that anybody is willing to lead off).

# BUSINESS OUTLOOK (Continued)

## BUSINESS WEEK

OCT. 27, 1956

Just about everyone knows that steelmen aren't satisfied with the recent price boost—especially in relation to expansion programs. Anyone who doubts it needs but to listen:

"Steel is still too low; another increase is needed," John F. Smith, Inland vice-president, told St. Louis purchasing agents this week.

Domestic producers of copper at midweek were high, if not dry, with their asking price of 40¢ a lb.

The London market, sagging day after day, had been shaded to just over 33¢. Custom smelters in this country had come down again (BW—Oct. 20'56,p20), and were offering the red metal at 35¢.

And copper for future delivery could be had at about 32¢.

There are Missourians to be found in the textile trade; they will have to be shown that the flurry in cotton goods is the real thing.

One, who has questioned numerous recent buyers of gray goods, finds they all have but one answer: "Oh, the price was going up."

The price rise reflected a wage boost. It brought a pickup in new orders. But doubts persist that there is any more to it.

Activity of the cotton mills apparently ran behind a year-ago again in September. The daily average consumption of cotton was just under 33,000 bales, between 5% and 6% behind last year.

That marked the fourth consecutive month to fall behind, following gains for the first five months of 1956.

Shoe industry gains over 1955 will be small when the score is in.

During this year's first quarter, the shoe factories posted a nice 6% gain over even last year's record activity. Since then, however, it has been a good month that has as much as matched 1955.

The industry is now figuring October production at about 48-million pairs, clinging close to the 1955 rate. But preliminary estimates indicate that September ran sharply behind—and the nine months' gain over 1955 had dwindled to 1½%.

Retail results for the first half of next year are viewed conservatively by members of the National Retail Dry Goods Assn.

In a report this week, they suggest a year-to-year rise of 2½%.

That would be only half the rate of rise for the first half of 1956. More to the point: It implies little or no gain in unit volume, for the year-to-year price advance looks like at least 2½%.

Doubtless the hope, deep down, is for a better dollar gain.

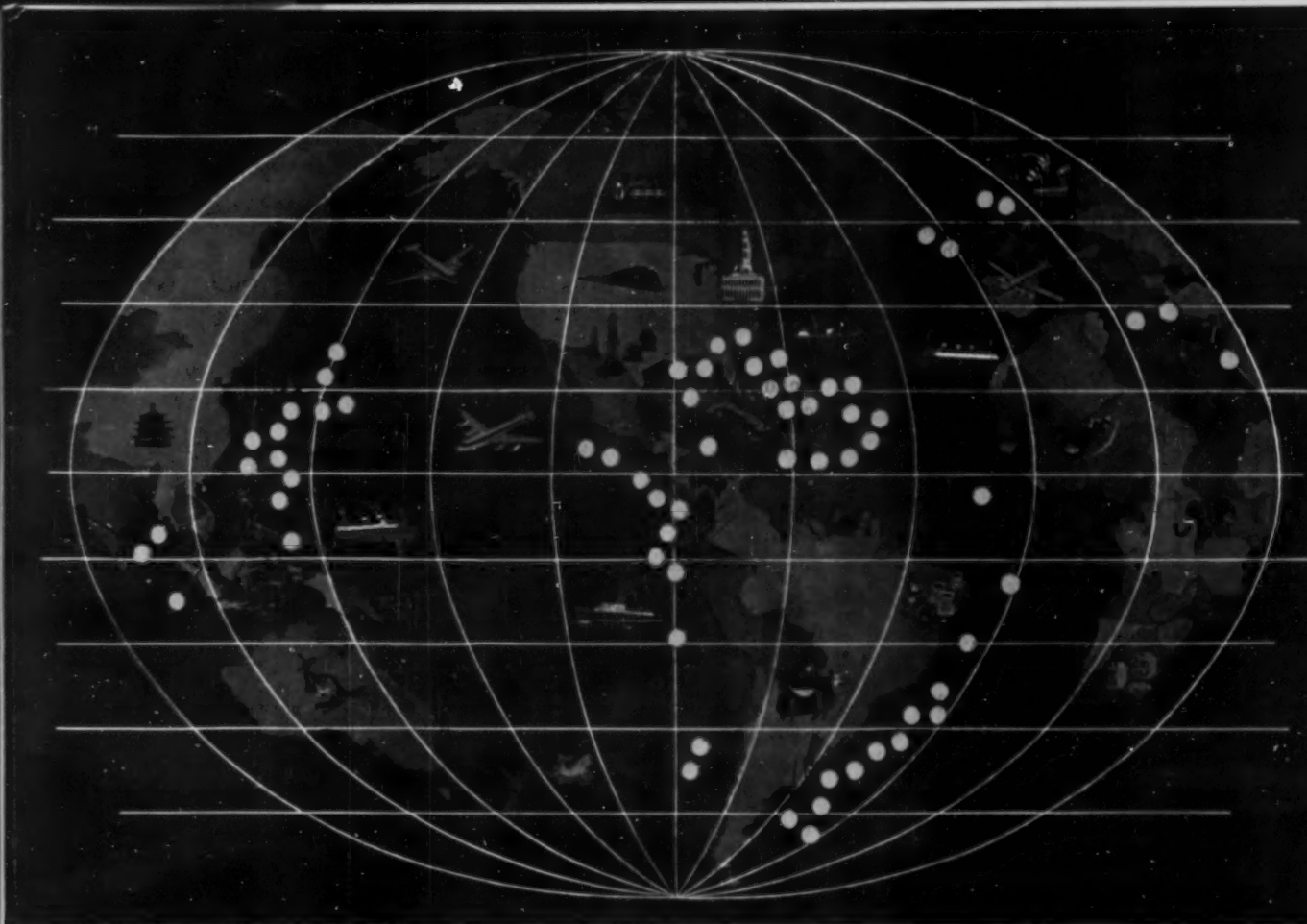
Here are good clues to business activity through Christmas.

- Fewer than a million workers drawing unemployment compensation for the first time this year. (The number averaged 1½-million through late winter and spring, 1¼-million during the summer.) The total, nevertheless, remains a little higher than a year ago.

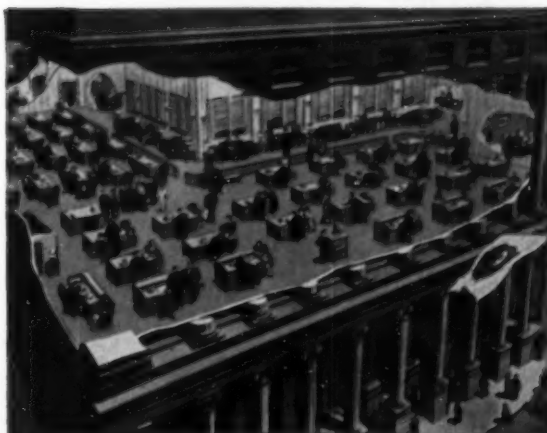
- New claims for compensation also the lowest for the year.

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## The Soviet Empire Shakes

**T**HE SOVIET empire in Eastern Europe has started to shake, under forces that Moscow can no longer control, except by brute force. Rule from the Kremlin is threatened by an upsurge of anti-Russian nationalism and deep, widespread resentment against unbearably low living standards.

It is not clear yet how Moscow will handle this explosive situation. Within the space of a week, the Soviets have reacted in two entirely different ways:

- Last weekend, a new "national Communist" regime came to power in Poland, the heart of the imperial edifice that Stalin built in Eastern Europe after World War II. After a threat of force, Moscow backed down.

- This week, a spontaneous anti-Soviet revolt tore Hungary from one end to another. But this time the Communist government called on the Red army to quell the revolt—and Soviet tanks and planes went into action.

Clearly, Moscow's problems have only just begun. There may be one crisis after another in the months ahead.

- **Real Setback**—There can be no doubt about one thing: This is by far the worst reverse Moscow has suffered since Stalin launched the cold war. It could mean that the cold war has already been won by the West.

At the very least, it puts a new perspective on the East-West struggle.

The military balance in Europe, at least in conventional forces, will be drastically altered. Up to now, Poland has been the center of Moscow's East European alliance system—an advance position for any Soviet military moves against the NATO countries. Unless Moscow should change its course in Poland, it seems doubtful if the Red army can long remain there. Even if it does, Poland in the future will be a protective buffer at most.

The Soviet economic offensive in the Middle East will be blunted. Moscow has been counting on the satellites, especially Poland, Czechoslovakia, and East Germany, to supply the capital goods (and arms) for this offensive. Now Poland, and before long the others, will have to devote their economic efforts to strengthening their own shaky economies. It's possible, too, that Egyptian Pres. Nasser will revise

his estimate of the advantages to be gained from leaning so heavily on Moscow's support.

Soviet military action in Hungary won't go down well in the uncommitted nations of South Asia, especially India. It's likely to wipe out the political and economic advantages Moscow has gained over the past year from the "smiles" of the Khrushchev-Bulganin team.

In the Kremlin this week there must be a real "agonizing reappraisal" of the foreign policy line laid down early this year at the 20th Communist Party Congress. It seems likely that drastic changes in the Soviet leadership will be made at the upcoming meeting of the party's central committee.

The uproar in Eastern Europe may force Moscow to take a second look at what the West offered last year at the Geneva summit meeting—a European Security Pact that would include German reunification and a guarantee of Russia's western borders.

### I. New Leader Gomulka

Although events are moving so fast that you can't be sure of anything, it seems likely that the Poles, rather than the Hungarians, have struck the most serious blow at Soviet power.

The head of the new Polish regime, Wladyslaw Gomulka (picture, page 28), was put on top by a popular uprising that first exploded in the Poznan riots and then made Communism the culprit at the Poznan trials (pictures, right). Behind this pressure lay long years of grievances against Russian domination and the miserable living standards produced by Soviet-style Communism (BW—Oct. 6 '56, p. 30).

- **Disaster**—In Warsaw last weekend the Russians suffered a real debacle—a reverse comparable with that met by Lenin in 1920, when he sent Soviet troops to the gates of Warsaw, only to have them beaten back to Kiev.

Half the Soviet Presidium, led by party boss Nikita Khrushchev, rushed to Warsaw to put out the fire, met stubborn defiance from former stooges, now under Gomulka's leadership.

- **Not Titoism**—There is no precedent for the "national Communist" revolution that has swept Poland. It shares with Tito's 1948 revolt against



**JUNE** Poles riot in Poznan, are quelled by troops and tanks.



**SEPT.** Poznan rioters are tried with surprising leniency.



**NOW** Polish Communists set up own regime—and make it stick.



WLADYSLAW GOMULKA demands freedom to run Poland's domestic affairs.



MARSHAL ROKOSSOVSKY no longer has full control over the Polish Army.



NIKITA KHRUSHCHEV bows to the Poles, then uses rough tactics in Hungary.

Stalin a defiance of Soviet rule—a defiance that was much more dangerous for the Poles, who have no frontiers with the West (map, page 29). But national Communism in Poland differs in this fundamental respect: The driving force came from below, from the people, not from a dictator, as it did in Yugoslavia.

The Hungarian revolt seems to be different again. The Communist Party in Hungary has held power since the war solely because of the presence of Soviet troops in the country. Today few Hungarian workers and students—even in the present crisis—regard the Communist Party as a rallying point in their struggle for national liberation. That's why former Premier Imre Nagy and anti-Stalinists pushed back in power by the crisis, had no choice but to call for Soviet troops to shoot down the rioters.

• **Pioneer Nationalist**—Gomulka has had popular backing in Poland because he was the first "national Communist" in Eastern Europe—even before Tito—and went to prison for it.

In 1947, when Tito was Stalin's henchman, Gomulka was already resisting Stalin's economic and political directives. On the one hand, he opposed farm collectivization and, on the other, he was ready to have Poland accept Marshall Plan aid.

When Stalin finally turned on Yugoslavia, according to a recent revelation by ex-Foreign Minister Molotov, he was shooting at Poland also—to prevent a "still greater disaster" there. Just to be sure that it didn't happen, he had Gomulka removed from the post that he has now regained and tossed into jail.

• **New Demands**—Now that he's back in power, Gomulka wants a lot more for Poland than he did before. He insists that Poland should be free to run its internal affairs without Soviet interference.

That doesn't mean he wants the kind of break Tito made with Moscow. No doubt he's ready, in return for Moscow's agreement to respect this demand, to respect the Soviet's security needs in Poland. Even so, it seems that Moscow will no longer have one of its marshals running the whole military show in Poland. Marshal Rokossovsky, who had been Polish defense minister and commander-in-chief, may be replaced by a Polish general.

## II. The Polish Way

Gomulka insists that there is more than one road to socialism. "There is the Soviet way," he says. "There is the Yugoslav way. And there are other ways."

According to the program he announced last weekend, Poland will de-

velop its political institutions as Warsaw sees fit, even give the people a chance to be heard in the selection of Poland's one-party parliament, which in turn will have a decisive voice in government policy.

As for economic affairs, Gomulka has suggested these basic changes:

- A shift in investment policy from heavy industry (including arms) to consumer goods production.

- A reorganization of industrial management to give the managers, rather than the bureaucrats, a real say.

- A halt to farm collectivization and lower taxes on individual farmers, who still represent 80% of Poland's farm population.

- **Easing the Grip**—There's no doubt that Gomulka plans to loosen the grip Moscow has had on the Polish economy.

Up to now, heavy industry has been working largely for Moscow's benefit. Much of the output went to the U.S.S.R. at nominal prices, or to Red China, the other satellites, or the Middle East on Soviet account.

The same has applied to more than two-thirds of Poland's coal exports, even though Poland can demand world market prices in the coal-hungry markets of Western Europe. In return, of course, Poland has received many Soviet-built industrial plants, including several large steel mills. But there's no doubt about who has gained more out of the Soviet-Polish economic exchange.

- **Hard to Shift**—If Gomulka is to change the whole economic climate in Poland and give the people a better standard of living, he will have to reduce over-all exports and also shift a good part of the reduced total toward Western markets.

However, any big shift in Poland's trade pattern will be tricky business. Moscow won't let Poland detach itself from the Soviet economic bloc, even gradually, without trying to block the process by some economic squeeze plays against the Poles. And Poland can't turn completely to the West, as Tito did, without running the risk of a Soviet military attack.

## III. View from Kremlin

Since last weekend, the Kremlin has been facing one of the worst dilemmas ever to confront it.

Using force to put down national Communism in the satellites is costly in terms of world public opinion. It jeopardizes the prestige that Moscow has been trying to build up in uncommitted nations such as India.

Rolling with the punches and granting control over internal affairs to the satellite governments shatters the Communist monolith. What's more, the Russians are bound to lose the



large economic profit they have exacted from the satellites.

- **Domestic Backfire**—The Kremlin has to think also of the domestic consequences of any action it takes in Eastern Europe. If it puts down the upheaval there by a massive use of force and retightens its military grip over the whole area, East-West relations would immediately become at least as tense as during the Korean War.

That would require a return to Stalinism inside Russia, regardless of resistance from the industrial managers and professional people at whom the "liberalization" of the past two years has been mainly directed.

- **Politics**—But if Moscow is going to roll with the punches in Eastern Europe and still satisfy its security needs in the area, there will have to be a re-vamping of the Soviet government. The debacle in Warsaw last weekend hurt not only Khrushchev but the Soviet Communist Party as well.

The party's power, which was shaken by the liquidation of Beria, was revived at the party congress only last February. Now that the party has been shaken again, a shift in the power balance in favor of the Red army seems inevitable.

That could bring down the Khrushchev-Bulganin regime and produce a new Army-Party coalition team, headed by Marshal Zhukov. He is the one Soviet leader who has come through the whole postwar period with an unscathed national reputation.

#### IV. And from Washington

Washington will play a cautious game in Eastern Europe, for the time being at least. U.S. officials are anxious not to embarrass Gomulka by rushing too openly to his assistance. They assume, however, from hints received from the Poles that U.S. economic aid will be requested at some stage.

- **How to Do It**—Agricultural surpluses will be the main source of assistance. Any major use of these will require Congressional action to remove the ban on sales of surpluses to Communist countries for local currency. But the Administration is confident that Congress will go along.

- **General Strategy**—Outside the economic aid field, the only immediate shift in U. S. policy will be an attempt to step up cultural exchanges with the satellite countries.

In general, the Polish revolution looks like confirmation to Washington of the wisdom of trying to foster cultural exchange. The exchanges with Russia, along with other products of the "Geneva spirit," are credited with having indirectly encouraged the satellites to grab for more freedom.



## Satellites Get Out of Hand

The Russian armies of World War II pulled Eastern Europe inside the Communist orbit. During the winter and spring of 1945, Red troops conquered Warsaw, Budapest, Prague, Vienna, and finally Berlin. By May 7, 1945—the date Germany surrendered—Moscow already was scheming to convert a military victory into a political triumph. Soon the Iron Curtain—at Moscow's behest—was dropping between East and West. In the years since, the West has bet on Tito's "national Communism." His defiance of the Kremlin has helped tilt the scale against Soviet domination of Eastern Europe. That's apparent if you look at what has happened:

**June, 1948—Yugoslavia:** Tito breaks with Stalin. Yugoslavia and Russia fight their own cold war. Tito begins to build "national Communism."

**September, 1948—Poland:** Wladyslaw Gomulka, top Polish Communist, confesses to a "Poland first" attitude, later goes to jail for three and a half years.

**February, 1949—Czechoslovakia:** Red puppet Klement Gottwald masterminds bloodless coup in Prague, puts Communists in full control.

**December, 1952—East Europe:** Stalin purges Titoist leaders in Hungary, Bulgaria, and Czechoslovakia, including Czech Communist Rudolph Slansky.

**March, 1953—Russia:** Stalin dies.

**June, 1953—East Germany:** An uprising in East Berlin fans out to other industrial centers. Flare-ups also occur in Czechoslovakia.

**July, 1953—Russia:** Moscow revives relations with Tito.

**February, 1956—Russia:** Khrushchev launches his de-Stalinization policy in a speech at the 20th Party Congress.

**June, 1956—Yugoslavia:** Tito makes a three-week trip to Russia, gets a promise from Khrushchev of "equality and independence" for the satellites.

**Poland:** The day after Tito's return to Belgrade, workers in Posnan riot—the first sign of a popular revolution in Poland.

**July, 1956—Hungary:** Matyas Rakosi, Hungary's "Little Stalin" and arch-enemy of Tito, is forced to resign.

**September, 1956—Russia:** At Yalta, Khrushchev in talks with Tito tries to slow down the de-Stalinization drive in the satellites.

**October, 1956—Poland:** Communists defy visiting Soviet leaders in Warsaw, reinstate Gomulka as top man. Another "national Communist" regime comes to power.

**Hungary:** Fired by the Polish example, Hungarians reinstate former premier Imre Nagy—Hungary's Gomulka—as government head, break out in battle with Soviet jets and tanks.



## A Ship's Worth More

When a furious Atlantic blizzard deposited the badly shaken freighter Etrusco on the rocky beach of Scituate, Mass., last Mar. 16, it washed up onto the beach a dead loss for the ship's Italian owners—and a possible tidy profit for an enterprising group of U.S. businessmen and their shipowner associates.

With shipping space in keen demand, and cries coming from all quarters to de-mothball reserve vessels to meet the need, this group decided that a ship on the beach was just as good a bet as one in mothballs. Though one major salvage company had turned down the refloating job as hopeless, the group determined to try its luck—with a possible three-to-one, or even seven- or eight-to-one, return on investment as the beckoning lure.

It was a gamble, but not a blind one.

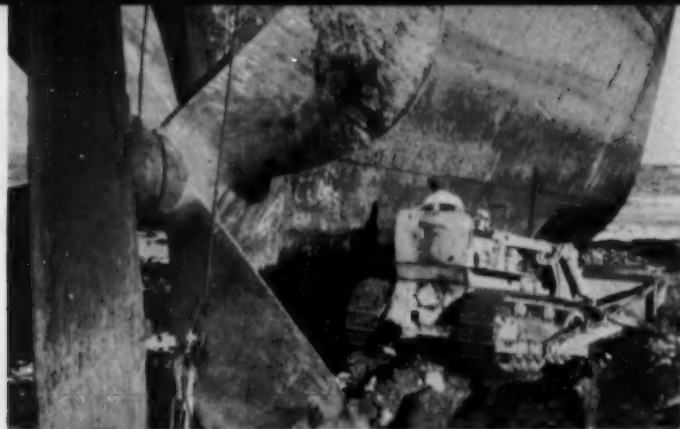
For the group has on its side retired Rear Adm. Lebbeus Curtis, president of Pacific Trailer Ships, Inc., who became famous for his wartime salvage work for the Navy at Pearl Harbor and Okinawa. Curtis decided the Etrusco could be floated. By this week he had jockeyed it foot by foot from its original parallel-to-the-coastline position around to a near right angle.

Adm. Curtis is banking on next month's period of extremely high tides to complete the refloating operation and start the next stage—repair.

• **Proposition**—When the 10,330-d.w.t. Etrusco, a Canadian-built Liberty, landed among the boulders on Scituate beach, it was owned by L'Italica de Navigazione, of Genoa. After the salvage company turned thumbs down, the owners abandoned the ship to the insurance underwriters, who offered it



**MEASURING** Little stake at left is where stern was when work started.



**DIGGING OUT** Bulldozers clear rocks from beach—bare at low tide—so ship can move.



**PULLING** Chains and cables tied to ship's own winches strain to pull bow, foot by foot, out to sea.

**STILL STUCK** Stormy high tides might have set vessel loose—but there wasn't any storm.

## in the Sea

for sale to the highest bidder. When the bids were opened on Aug. 14, the top price—\$121,211—was offered by Victor Transport Corp., of Monrovia, Liberia.

Victor had been born only the month before over a luncheon table at the Downtown Athletic Club in New York, where Adm. Curtis offered his opinion that the Etrusco could be refloated. It's a three-headed company, with ownership divided equally among (1) three Norwegian shipowners, Gordon Mosvald, Capt. Arnfeldt Johannsen, and Karl Glastad; (2) Henry Dowd, New York ship broker representing a small group with extensive shipping interests; and (3) A. D. Lee of Houston, Tex. (BW—Sep. 3 '55, p136), head of Lee Shipping Co. (Adm. Curtis has an option for up to one-tenth interest.)

With the Etrusco bought, the group





formed Ocean Salvage Corp., with Adm. Curtis as president, to do the refloating job, and put up \$75,000, in the same three-way proportions.

• **Time and Tides**—Adm. Curtis and his salvage crews moved aboard the Etrusco early in September.

The plan all along has been to kedge the ship—as the nautical men have it—off its rocky perch and back into the water; that is, to drop sea anchors or kedges off shore, link them to the bow with stainless steel cables, and use the ship's own winches for pulling the bow seaward. It's that method—plus reliance on high tides—that has edged the Etrusco's bow out almost at right angles to the beach.

And for every four feet the anchors pull the bow, the stern shifts a foot.

For the big push, though, Adm. Curtis looks to the extremely high tides that come only during three or four days each month at full moon. If October's high-tide period, over last weekend, had brought the promised northeaster (the same kind of storm that stranded the Etrusco in the first place), the final push might have come. Now, though the daily inching will go on, eyes are on November's big push.

And of course—though the Etrusco has much elasticity because it's riveted, not welded—it's always possible the strain might snap it in two.

• **Money**—By the time the Etrusco is afloat, if the operation succeeds, the owners figure they will have put in about a quarter of a million dollars. But that won't be all. Though the holes torn in the Etrusco's hull have been patched up, the ship will have to go into dry dock for repairs. That will add another quarter million—maybe as much as \$600,000 more.

But take the total investment at about half a million, which one of the owners thinks is a good figure. With the Etrusco seaworthy again, the owners would have a property worth \$1.3-million to \$1.5-million.

And that's more than a paper figure. The United Mine Workers—involved with coal producers and railroads in a joint coal ship deal (BW—Aug. 18'56, p32)—are reported to have offered \$1,550,000 for the ship. One of the Etrusco partners has been dickering with some Krupp officials in Germany. The Krupps have indicated they'd be happy to charter the Etrusco on a five-year contract that would net the owners some \$40,000 a month—and advance the owners up to \$850,000 cash to sew up the deal. The Krupps would use the ship to haul coal.

Other charter deals are possible. But on the indicated Krupp figures, the owners would net \$2.4-million over five years—and still have a \$1.5-million ship. Not bad for a half-million investment.

## Drought Hits Old Man River

Shippers and industrialists along the upper Mississippi River are praying hard for rain, as receding waters curtail navigation and threaten local industry.

Low water on the Mississippi is curtailing river navigation and threatens to create a coal and fuel shortage in the St. Louis area. And unless the region gets a good sustained downpour soon, power and water supplies will be heading into a crisis within a few weeks.

This critical situation is the cumulative effect of several years of below-normal precipitation in the Mississippi and Missouri watersheds. Last week, the water level gauge on the Mississippi at St. Louis read minus 2.6 ft., and, according to Col. George E. White, Jr., of the Army Engineers Corps St. Louis Div., the river may be so low by Nov. 15 that all barge traffic above St. Louis through the Alton Locks and below the dam to Cairo will be stopped.

• **Conference**—Last week, representatives from 25 oil and 40 river transport companies met to discuss the possibility of setting up a nonprofit river barge pool. Among the emergency measures considered were (1) a plea to Pres. Eisenhower to double the present draw from Lake Michigan, and (2) installation of oil pipelines to pump from barge to barge across the Alton Locks.

This week, diversion of Lake Michigan water into the Illinois waterway system was temporarily increased from 900 cu. ft. per sec. to 2,600 cu. ft. per sec., through an agreement between Army Corps of Engineers and the Chicago Sanitary District. The higher rate—for a 10-day period—will raise the water level in the Mississippi at Alton an estimated 24 in.

• **Traffic Tie-Up**—Meanwhile, there was a traffic congestion at Alton Locks, at Alton, Ill., where barges already have to be lightened 20% of their normal loads to make the trips up the Illinois River to Chicago, or northward on the Mississippi. Many barges stood in line for 24 hours to be "locked through"—an operation that takes about 25 min. under normal conditions.

• **Appeal**—To ease the emergency, St. Louis Army Engineers Corps is looking everywhere for a bucket or two of water. For one thing, it has been trying to wheedle more Missouri River water out of Army Engineers in Omaha. Currently, the Missouri is supplying half the Mississippi's flow.

The central fact about the Missouri, insofar as the St. Louis area's emergency is concerned, is that it is a controlled river. Army Engineers has absolute regulation of its flow through the four upstream dams in the Dakotas and

Montana. By its ability to adjust supply to needs, Army Engineers will save the Missouri Basin itself from any emergency caused by short supply. But that will worsen St. Louis' predicament.

During the summer months, Army Engineers cut loose about 34,000 cu. ft. per sec. (CFS) from Gavins Point Dam at Yankton, S.D.—lowermost of the Missouri River dams. By the time this water reaches the mouth near St. Louis, contributions from tributaries have swelled this by 2,000 CFS.

But during the winter, to fill the reservoirs, the Missouri's flow is pinched down to the minimum needed for consumptive use and pollution control. The pinchdown is now in process. Releases are being cut to 15,000 CFS at Gavins Point; on Nov. 15, they will be cut to 7,500 CFS.

• **Last Straw**—This year, the cut will be a body blow to St. Louis. The reductions in the Missouri's flow will be the principal factor in a downward drop that will carry the Mississippi from its present stage of minus 2.6 ft. at St. Louis to what Army Engineers expects to be closer to the actual level of minus 8 ft.

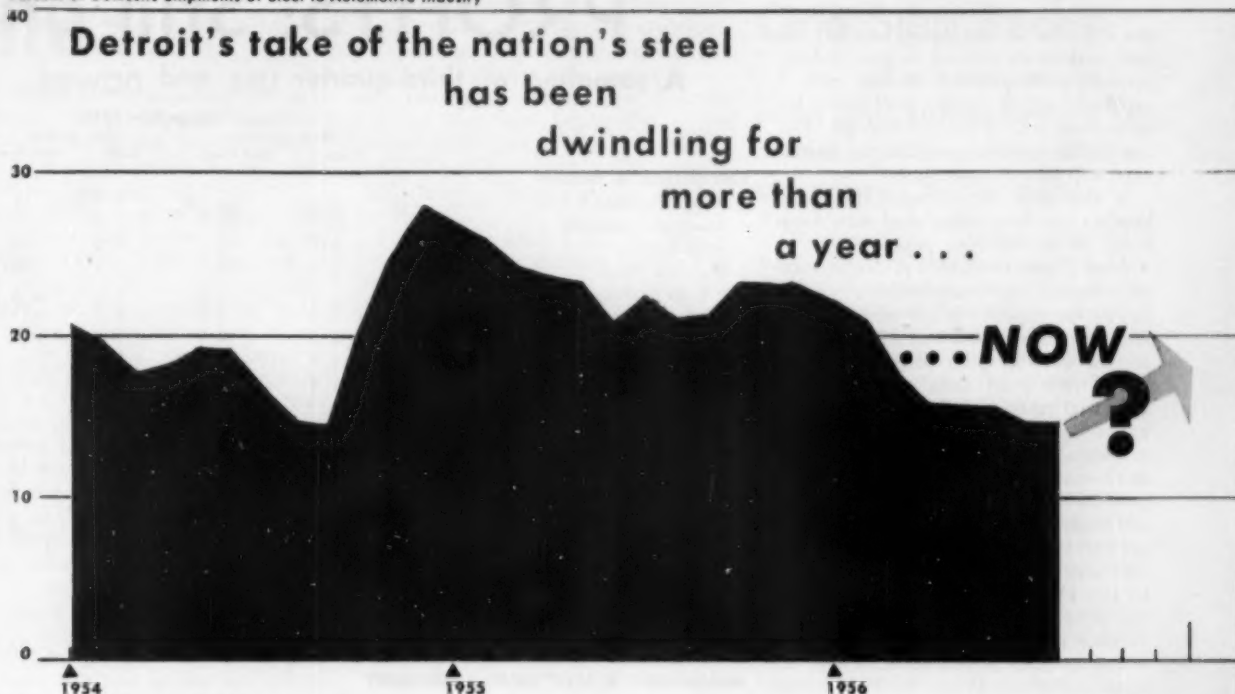
Before the St. Louis situation became public, Col. White called a meeting of Army Engineers representatives in the Missouri Basin and the upper Mississippi to discuss the emergency. The Missouri River Division office at Omaha sent the head of its reservoir control center. No one actually asked him for more water from the Missouri, but the implication was plain.

• **Stand**—The position of Maj. Gen. G. E. Galloway, Missouri River Division Chief of Army Engineers, is that it was Congress' intent that the Missouri River be developed for the benefit of the Missouri Basin.

It might be different if there was an abundance of Missouri River water available; but there isn't. The amount in storage at the four dams today is only 13.6-million acre-feet.

This subnormal supply is forcing the navigation season to close a month early this year—on Oct. 26. Tonnage this year, due in part to the shortened season but mostly because of competitive rate slashes by the railroads, will run only about 300,000 tons, compared with last year's 415,000 tons. And the situation is causing concern among local industrialists, who wonder where they will get the water necessary to run their plants.





Data: American Iron &amp; Steel Institute.

©BUSINESS WEEK

## The Coming Shortage of Steel

Scads of steel's top-level sales executives spent Monday in Detroit looking at Chrysler's 1957 line. Almost to a man, they were deeply impressed.

And many stay-at-home steelmen reported happily, that same day, that automotive steel orders for December are at 100% of quota—something that hasn't been true for months.

Rather freely around Pittsburgh, all week, it was asserted that the 1957 Chevrolet drew more buyers when it appeared, Oct. 19, than the 1956 models did last year.

• **No Letup Seen**—Everywhere that steel is made, the industry chugged along at slightly more than capacity—as it has since early post-strike days. Nor could any letup be seen through the next five months.

All these things had Pittsburgh rubbing its hands cheerfully—when it wasn't scratching its head a little anxiously. The hand-rubbing, of course, anticipated prolonged high-level steel sales to the industry's best customer, automobiles, a market that has been dull for months. But the head-scratching reflected a deep concern about the oversold steel market that is rapidly and unmistakably coming up.

That can't come any later than December—now that Detroit has placed firm orders at 100% of its quota for that month. That follows simply on

the basis that steel is at capacity with autos taking only about 75% of their quota. Demand will be over capacity by at least 5% when Detroit is taking all its quota.

• **The Real Problem Is**—How much oversold? That's about the only question the steelmakers can't answer right now. It depends on how well the new models sell—although it's not quite so simple as all that.

The rate at which the new cars sell will determine just how belligerently Detroit swarms into car production. In turn, this will govern its steel orders.

The rate of ordering by Detroit, in turn, will affect the rate at which other big steel buyers order. When Detroit is really beating on the table for steel, other buyers tend to over-order—just to insure a place on somebody's melting and rolling schedules. When that happens, demand surges beyond supply and a market frenzy develops as it did in 1955.

• **Lesson Learned**—It's true that you hear considerable reassuring comment—by steelmakers and auto people both—that there'll be no repetition of the 1955 frenzy. Numerous steelmen insist that you'd need a return to a 7-million-plus auto year to develop so uncontrollable a steel demand. And the auto makers talk in terms of much tighter scheduling, of more closely con-

trolled dealer stocks, and of less "borrowing" of car sales from future years. Detroit, you hear frequently, has learned its lesson from the 1955-56 "boom-slump" cycle.

However, that won't prevent an oversold steel market by December.

Steel has been operating at capacity-plus since the strike-recovery period. During that period, the automotive take has been perhaps 25% below normal. Even so, a number of steel producers have more unfilled orders today than they had 30 days ago.

• **Inventory**—Then, too, for all its intensive drawdown of steel inventory in the last four months or so, Detroit still hasn't finished cutting steel stocks. One of the Big Three has 30 days more of inventory reduction ahead—another expects to cut through the end of the year. Plainly, if the new models catch on briskly, production will rise and right along with it will go Detroit's steel inventories. They won't have to rise so far so fast as in 1955 or 1956, for there's to be no steel strike in 1957. But in a steel market that was at capacity even before the new model year, Detroit won't be able to expand production very far while holding inventories at low levels.

Finally, as more than one steelmaker points out, the automobile business is very competitive. Thus, steelmakers

argue, what difference does it make how many lessons Detroit learned from the 1955-56 "boom-slump" cycle? All auto makers are striving to gain or hold market participation. If one gets a car that's selling briskly he'll shove his production just as far as it can go. The competitor whose position is threatened will strive to match it.

If this goes far enough, they add, how do you keep other steel users from trying to protect their positions?

• **New Capacity**—Steel's principal hope of avoiding an uncontrollable market lies in the capacity it has added in the last two years. Steel had 125.8-million annual tons in place when the 1955 model race really took off, almost exactly two years ago. Today, it probably has about 6-million more ingot tons available. That would yield 4.2-million additional product tons, of which autos, on a 20% basis, could expect to get an additional 840,000 tons. At two tons per car, that should yield 420,000 more cars—and if you added that number to the 1956 production, you wouldn't be very far short of the predictions Detroit is making.

• **Ingots**—But there's at least one fly in the ointment. When the 1955 model year got started, steel was operating at 80% of capacity. That meant there were 25-million tons open for whatever business came in. This isn't true today.

One of the five largest producers, for example, agrees that he'd probably be hard put to produce only 50 more ingots in the next month than he's producing now.

Another substantial automotive steel producer puts it this way:

"Look, I'm trying to buy steel to finish. The market's just tight enough that it'll cost me \$110 for ingots, \$120 for slabs. Now you add a 2-million-car first quarter to that kind of a market and see what you get."

• **Prospects**—One thing is plain. For Detroit to have a 1957 model year that matches its sedate forecast—6.5-million to 6,750,000 cars—some non-automotive steel users are going to have to move over. For again, steel has been at capacity with autos taking only about 15% of production. Their normal take is about 20%. At today's production rates that figures to about 400,000 tons per week more steel on which Detroit has a pretty persuasive claim.

Those steelmen who parcel out the stuff stop right there, unwilling to talk about the problems they'll face if Detroit has a better year than it now predicts for 1957, rather than another 6.1-million car year as in 1956. About all they'll say is that Detroit generally manages to get most of the steel it really needs.

On that basis, steel can't avoid an oversold market by December.

# PROFITS: Still on a

## A sampling of third-quarter ups and DOWNS

	Percent Change From 1955			
	Third Quarter		Nine Months	
	Sales	Net Profit	Sales	Net Profit
<b>CHEMICALS &amp; DRUGS</b>				
Allied Chemical & Dye.....	-0.2%	-26.1%	+4.9%	-11.1%
American Cyanamid.....	+10.1	+23.7	+11.5	+63.2
Atlas Powder.....	+9.7	+14.1	+7.8	+26.0
Diamond Alkali.....	+2.8	+12.3	+10.7	+28.4
E. I. du Pont de Nemours.....	*-2.3	*-12.6	-1.8	*-3.8
Hooker Electrochemical.....	+6.6	+9.6	+6.7	+11.3
Parke, Davis.....	+5.5	+14.1	+9.4	+28.1
Rohm & Haas.....	+4.9	-7.4	+2.3	-11.8
Union Carbide & Carbon.....	+5.4	-15.0	+9.3	+0.8
<b>CONSTRUCTION</b>				
General Portland Cement.....	+11.3	+17.1	+14.7	+24.4
Johns-Manville.....	+7.0	-2.9	+10.1	+15.4
Lehigh Portland Cement.....	+5.1	-5.9	+5.1	+2.4
National Gypsum.....	-2.5	-33.0	+8.0	-2.5
Penn-Dixie Cement.....	+14.1	+22.8	+13.7	+25.4
<b>CONTAINERS</b>				
Container Corp.....	+3.9	+4.7	+9.7	+15.5
Continental Can.....	+14.7	+15.2	+15.6	+28.3
Libbey-Owens-Ford Glass.....		-33.7		-27.0
<b>MACHINERY &amp; ELECTRICAL EQUIPMENT</b>				
Fairbanks, Morse.....	+27.7	+118.1	+22.3	+32.7
General Electric.....	+19.6	+6.1	+17.9	+5.1
Husmann Refrigerator.....	+11.1	+15.5	+2.2	-0.4
International Business Machines.....		+19.2		+28.1
Minneapolis-Honeywell Regulator.....	+21.7	+16.3	+13.0	+26.2
Radio Corp. of America.....	+13.5	-12.1	+9.7	-10.0
<b>PAPER &amp; TEXTILES</b>				
American Enka.....	-19.4	-79.8	-13.5	-60.6
Industrial Rayon.....	-32.1	-71.1	-28.6	-47.2
Rayonier.....	-5.4	-27.5	+0.3	-9.8
Riegel Paper.....	+21.4	+11.8	+16.4	+68.1
St. Regis Paper.....	+19.5	+8.0	+38.0	+30.0
Scott Paper.....	+12.6	+4.2	+8.2	+3.4
<b>METALS</b>				
Allegheny Ludlum Steel.....	-24.9	-86.2	+11.4	-7.5
Climax Molybdenum.....	-23.9	-35.3	-15.3	-31.2
Crucible Steel.....	-22.5	-81.5	+10.5	-4.9
Republic Steel.....	-32.6	-80.4	+2.2	-11.6
U. S. Pipe & Foundry.....		+4.7		+6.7
Youngstown Sheet & Tube.....	-30.0	-69.9	+3.6	-14.9
<b>TRANSPORTATION, OILS, RUBBER</b>				
Allis-Chalmers.....	+6.5	-30.9	+9.0	-13.4
Atlantic Refining.....	+8.2	+91.7	+6.8	+34.1
Caterpillar Tractor.....	+22.6	+42.5	+30.4	+59.8
Continental Oil.....	+5.4	+10.7	+9.8	+13.6
*Douglas Aircraft.....	+7.4	-19.7	+5.2	-11.9
Eaton Manufacturing.....	+3.6	-16.4	+5.3	-2.6
*General Tire & Rubber.....	+34.8	-28.6	+32.6	-11.9
Glen L. Martin.....	+32.4	-21.9	+17.4	-20.5
Sun Oil.....		+16.7		+7.6
Thompson Products.....	+6.2	+21.9	+0.1	-15.8
<b>MISCELLANEOUS</b>				
Gillette.....	+3.8	-1.3	+15.2	+10.1
Liggett & Myers Tobacco.....		+0.4		+4.3
National Distillers Products.....	+0.9	+10.1	+8.8	+34.2
Philip Morris.....	+15.7	+2.0	+17.6	+11.7
Schick.....	+21.7	+58.6	+25.5	+74.6

\*Estimated.

\*\*Third Quarter and Nine Months Ending Aug. 31.

# Plateau

The headlines announcing the early statements on third-quarter corporate sales and earnings are mostly cheerful ones. Gains predominate in this early tabulation. But the picture is spotty; gains are selective—as in the stock market. It was a good quarter, but not an exceptional one by present standards.

The figures reflect what has been generally true of business activity so far this year—a narrowing margin of increase over last year. As the Dept. of Commerce noted this week, corporate profits are not moving the same way as other types of income.

• **Slowing Down**—During 1955, profit margins were still rising, to regain the ground lost in the preceding recession. During the first half of 1956, corporate earnings dipped moderately in dollar total, while other major types of income continued to increase.

For most companies, the third-quarter performance dragged down the performance for the nine months. It still ran ahead of a year earlier, but not so far ahead as the two previous quarters. Anyway, stockholders hardly have cause to complain this year. Cash dividend payments of all publicly reporting corporations were 13.1% higher in the first nine months of 1956 than in the comparable 1955 period. For manufacturers alone, the increase was 16.4%.

• **Cost Squeeze**—Higher costs took a toll of profits in the third quarter in many instances. Today a large increase in sales is required to get an increase in net profit. A number of companies reported increased sales with substantially smaller increases—or even declines—in profits.

Radio Corp. of America, for example, reported a 12% decline in third-quarter net profit compared with last year, despite a 13% increase in sales to a new high. Last month, RCA raised prices of television receivers 14% to 10% to offset its cost increases, but not in time to help third-quarter profits.

Ford Motor Co. lost 82% in net earnings, compared with last year's third quarter, on a sales drop of 25%. Giant General Motors reported sales of \$2.3-billion and profits of \$137-million in the third quarter this year against \$3-billion and \$252-million in the same period of 1955.

• **Steel Industry**—The steel strike, of course, brought lower sales and sharply lower profits to that industry during the past quarter. All of the major steel producers suffered. But, despite their poor third-quarter performance, most steel companies are very optimistic for the final quarter as well as for the year as a whole.

In a typical statement, Republic

Steel Corp. Chmn. C. M. White noted that Republic made a strong comeback in operations following the strike and that fourth-quarter sales and earnings were running at a record rate. He also reported that, with business at record levels for the rest of the year, he believes Republic's 1956 dollar volume could reach a record level in spite of the strike.

Only Kaiser Steel Corp. reported a gain in both sales and net income during the third quarter. Earnings increased to \$6.9-million in the third quarter, from \$2.8-million a year earlier. But this reflected net savings arising out of an agreement to consolidate its income tax returns with Kaiser Industries Corp., the company said.

• **Chemical Industry**—Chemicals as a group performed only fairly well in the third quarter. E. I. du Pont's net was down sharply for the quarter. It would have dipped more sharply had it not been for dividends received from General Motors. Other large chemical companies such as Allied Chemical & Dye and Union Carbide & Carbon suffered substantial profit declines.

Manufacturers of fertilizers and dyes and, of course, textiles have had a difficult time. American Enka, Industrial Rayon, and Rayonier suffered substantial declines. The gains shown for American Cyanamid Co. are slightly misleading: The nine-months report includes profits from Formica Co., acquired in April, and from sale of a plant and a subsidiary.

• **Building Materials**—Makers of construction materials were affected by the sharp drop in home building.

National Gypsum Co. places blame there for its third-quarter sales and profit decline. The 33% drop in profit, the company says, is largely accounted for by heavy startup costs at five new plants completed this year.

United States Gypsum Co., on the other hand, reports a decline of 0.2% in third-quarter sales with a 0.6% increase in net profit. This points up the spottiness of the third-quarter profits picture within industrial groups.

Unfortunately for the construction materials group, the decline in home building came at a time when they were expanding capacity. Gypsum capacity for the nation is expected to be up one-third over 1954 by the end of the year.

• **Machinery**—In the third-quarter results of the machinery companies, this selectivity is also apparent. Allis-Chalmers Mfg. Co. reports that the decline in farm equipment sales and the upward pressure of costs are being felt. However, Caterpillar Tractor Co., which also produces farm equipment, reports a 43% gain in third-quarter profits. Reason: Its largest volume is in track-type tractors, earthmoving equipment, and diesel engines.

# One Step Back . . .

. . . in sales set-up to bring quick strides forward in marketing Plymouths. That's aim of new Chrysler move.

Chrysler Corp., saddled with the auto industry's thorniest problem, is dusting off, reshaping, and renaming an old management function in its attempt to find a solution. Chrysler's problem is how to put more sales emphasis on Plymouth, the volume car on which the corporation's business must be based. It hopes it can do this through creation of the job of "General Manager, Group Marketing."

Into this job, on Nov. 1, goes Byron J. Nichols, Dodge Div.'s former vice-president for sales, who will work under William C. Newberg, Chrysler's automotive group vice-president.

• **Reverse and Forward**—With this, Chrysler is, in a sense, taking a step backward in the hope of being able to take several strides forward. Until about two years ago, ultimate responsibility for the whole corporation's sales was in the hands of a vice-president. Then decentralization came to Chrysler; each division's sales vice-president took over more authority in merchandising his own products.

But the change left Plymouth no better off than before, because dealers' franchises were written only by the Chrysler, De Soto, and Dodge Divs. Their field men took dealers' orders and naturally gave heaviest emphasis to their own division's car.

At first, Chrysler tried to get around this by establishing separate dealerships for Plymouth. But this failed because the dealers either didn't want to give up one of the cars they handled, or didn't have enough money to set up separate showrooms for Plymouths.

• **Centralization**—So now Chrysler Corp. is trying centralization again. A newly established body, Chrysler Motors Corp., will write all dealer franchises and will sell all the corporation's cars to the dealers. Through this, Nichols will have direct control over distribution of all cars, and can see that Plymouth gets top billing in dealers' orders.

Working for him will be four area directors who'll be responsible for sales of all Chrysler cars and trucks in their sectors of the country. Regional and district managers will still represent one or other of Chrysler's lines.

Thus, the switch leaves to the divisions the manufacturing, advertising, and sales promotion of their own cars. But it puts marketing back up at the top level of the corporation.



Eight thousand bankers at the American Bankers Assn. convention in Los Angeles this week discussed their problems but put top emphasis on social get-together—a sign that it's a . . .



## Sunny Season for the Banks



WORK gets share of time when ABA's Economic Policy Committee meets under Chmn. Evans Woollen, Jr. (center).



EQUIPMENT like this check processing machine that can help handle banks' growing business pulled bankers' interest.

Tight money may worry businessmen who have to borrow, but it's bringing sunshine for the country's bankers. There's no sign yet that the pinch on borrowers is worrying many of the lenders.

For sure proof of that, just look at the pictures on this page. They show a representative few of the 8,000 bankers who went to Los Angeles this week for shop talk and social get-together at the American Bankers Assn.'s 82nd annual convention. When there's economic gloom in the air, priority at a bankers' convention goes to shop talk; but among the bankers at Los Angeles this week the chief emphasis was on the social end of the affair.

• **Prosperous Forecast**—The big majority of the 8,000 bankers, just approaching the end of a boom year, say their business will continue to be prosperous. More important, they're confident that despite the Federal Reserve Board's restrictive credit policy, there'll be credit enough to maintain the nation's high business activity through the first half of 1957.

Bankers from all parts of the country say they're making a record number of loans to meet the demand for funds. And, with the Fed holding down credit supply, banks are getting higher interest rates on the money they lend.

The Fed's policy, in fact, gets strong support from most of the bankers. They feel that tightening of credit has kept inflation under control, and, so long as the Fed does not create a capital shortage by pressing its policy, the economy can continue expanding without serious inflation.

Said one Ohio banker, "We've never had it so good"—and with that

he spoke for a lot of the 8,000 other delegates.

• **Minority View**—A number of others are worried about general complacency in their business. Most of these are from the more aggressive banks that have been lending to business to the limit of their resources. They are squeezed for funds, and they fear a continuation of the Fed's policy may bring on a real capital shortage. If this happens, the prosperity of the banking business would fade away.

This group, however, is strictly a minority. Most of the bankers say they have funds to lend. And they're convinced the Fed will reverse itself quickly if economic conditions suddenly change. They see no weak spots in the economy that are likely to warrant any such shift. In fact, some of them think the Fed may jack the discount rate even higher, though it's now at 3%, the highest since 1933.

Their predictions of continuing prosperity aren't dependent on reelection of the Republican Administration. Few think the Administration will be defeated next month; nevertheless, the consensus is that a change-over in Washington wouldn't affect the nation's economy. Their only fear is that a Democratic administration would weaken the Fed's independence.

• **Self-Respect, Too**—In their widespread approval of the Fed's independent policy, the bankers aren't merely applauding something that helped give them a boom year.

Said one Chicago banker, "We had become mere salesmen, lost a lot of our traditional standards when money was easy. Now we're learning to be bankers again." And a California

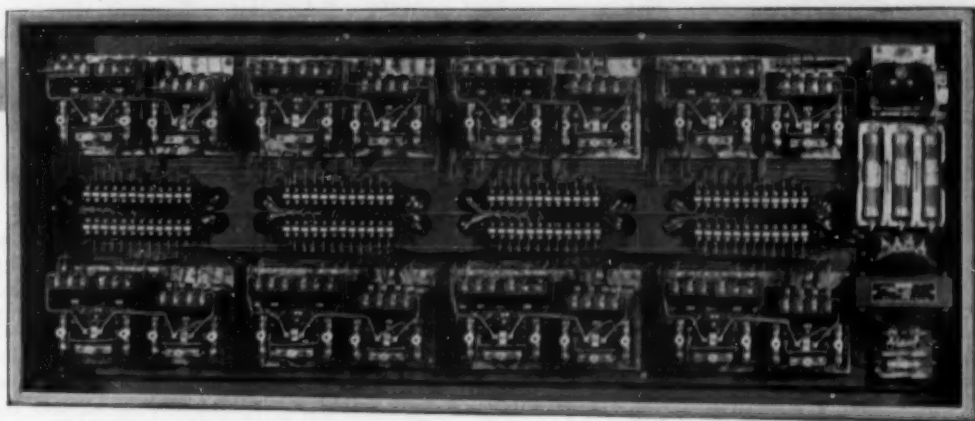
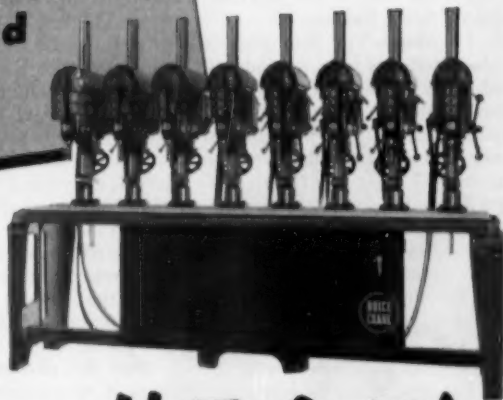


# BOICE-CRANE

## multiple head drill press

### FACTORY EQUIPPED

### with ALLEN-BRADLEY *Motor Control*



*This motor control panel, consisting of eight Allen-Bradley Bulletin 715 multispeed starters, is used to control the Boice-Crane 8-Spindle Drill Press shown above. The panel, which also includes a transformer, fuse clips, and standard Allen-Bradley disconnect switch, was assembled by Boice-Crane.*

On production equipment such as this Boice-Crane Drill Press, Allen-Bradley is America's favorite motor control. The reason is simple—Allen-Bradley starters provide better consistency in operation and greater reliability. Here's why:

Allen-Bradley solenoid starters have only *one* moving part—free of bearings, pivots, levers, etc. This remarkable simplicity is your guarantee of millions of consistent, trouble free operations. And the double break, silver alloy contacts used throughout the Allen-Bradley line never need service attention. They are always in first class operating condition.

It will pay you to specify Allen-Bradley motor control on *your* production machines—and for your own plant use.



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## ALLEN-BRADLEY

## MOTOR CONTROL

QUALITY

banker said, "We're now in the jockey's seat when it comes to dealing with business."

Tightening credit has forced bankers to become much more selective in granting loans. Most say they're turning down loans to new businesses and speculative borrowers, taking no government-guaranteed mortgages in many communities. In the same breath, most of them say they're not discriminating against small business.

• **Tough Decisions**—Yet the protests make it plain that this issue is troubling them, and a few candidly admit there's some substance to the charge. But even these explain that with only a limited amount of credit available, big corporate borrowers are inevitably in a better position to get funds than small ones. They can readily sell bonds to the public and to institutional investors; but now, because big corporations are relying on the banks for their credit, the small outfits are not getting all the credit they need.

Selectivity, much as they like it, isn't so easy, some bankers complain. They don't like tying up funds in long-term loans to big companies, but these companies are asking for them and it's hard to say "No."

The Fed, too, frowns on the practice of banks making long-term loans, particularly for expansion. It feels bank credit should be used for relatively short-term needs.

• **Hunting Deposits**—It's this practice, also, that troubles the few pessimists among the bankers at Los Angeles. Most of the big commercial banks in New York, for instance, believe the only way they can increase their lendable funds is by adding to their deposits. So they want the Fed to allow them to raise the 2½% ceiling they can pay on time deposits. In opposition are the smaller commercial banks, not so fully "loaned up" as the big New York outfits, nor so pinched by shrinking deposits.

But with continued tightness in prospect, a lot of bankers acknowledge that attracting increased deposits could become an acute problem. Without more deposits, the banks will be hard put to keep up their loan expansion rate. They are already making borrowers keep 10% to 20% of their loans on deposit. This, of course, amounts to a higher charge to the borrower.

Until now, banks have sold securities—mostly government bonds—from their investment portfolios to make loans. "But," says one New York banker, "we're at the bottom of the barrel. Some banks still have money available, but not the big ones. And if the economy is to keep on expanding, the bigger banks will have to get more funds."

## Budgets Go On Forever

While the Presidential campaign swirls outside their door, Budget Bureau experts plot the government a fiscal path. They see spending and revenues up but no general tax relief.

Most U.S. politicians have hung a figurative sign on their office doors reading, "Gone Campaigning Until Nov. 6." But not so within the federal Bureau of the Budget, where it's business as usual among the planners working up a budget to go to Congress in January.

For the fiscal year that begins next July 1, they see a \$3-billion rise in federal spending shaping up.

The increase in outgo is expected to be matched—or exceeded—by a rise in tax revenues stemming from the boom. Thus the outlook is for another Treasury surplus and another reduction in the public debt.

But the chance of a surplus large enough to stimulate a broad, general tax cut does not look bright.

• **Win or Lose** . . . —The election 10 days from now will not change this outlook in any fundamental way. A budget message for fiscal 1958 will be submitted to Congress early in January by Pres. Eisenhower, whether he wins or loses. And the message will be the major guide for appropriations, no matter which party wins.

By now, budget making for the next fiscal year has reached the review stage inside the Budget Bureau. Officials already know they are fighting a losing battle against a combination of rising costs and expanding programs.

• **Going Up**—Here's the spending picture:

• **Biggest increase** is for arms. Defense Secy. Charles E. Wilson, jumping the gun on the Budget Bureau, says the rise will be somewhere between \$1.5-billion and \$2.2-billion. Pentagon budget experts say the service chiefs are asking for increases closer to \$3.5-billion, but these presumably will be cut down by Wilson himself.

• **Next biggest rise** is for construction of public works. Outlays for the new highway program alone will rise by nearly a half-billion dollars. Requests for schools, dams, slum clearance, and the like will increase construction plans by an additional \$1-billion. The big question is whether Congress will work out some sort of school aid program.

• **The most erratic item** in the budget—farm aid—is more of a puzzle than ever. Such unpredictable factors as crop conditions and price levels have caused trouble in the past; now there is the added question of how the soil bank will affect price support operations.

• **In Uniform**—Secy. Wilson plans to

reduce the armed forces next year by something like 110,000 to 170,000 men. But this is not enough to offset the rising cost of weapons.

• **Costs Climbing**—One reason for the increase is the general price rise. But the big reason is the spectacular rise in costs due to improvements. An atom-powered submarine, for example, costs \$47-million, where the submarines used in the Korean and War II fighting cost \$7-million each.

Also in the general area of national security, the Atomic Energy Commission has requested an increase, likely to be around \$200-million, mostly to double the present electric power reactor program.

• **One Exception**—Stockpiling of strategic materials is the only national security activity that now seems destined for a decline next year.

Military foreign aid, also assigned to national security in the Eisenhower method of grouping expenditures, is running about \$3-billion in fiscal 1957 (page 158). The Administration is expected to ask Congress for about the same amount or a bit more next year. Economic aid is expected to level.

• **The Result**—Total expenditures in the present fiscal year are set at \$69.1-billion in the traditional, administrative budget. In addition, the road program is drawing out \$1.15-billion from the new trust fund established for the purpose, for a total spending of \$70.25-billion.

In fiscal 1957-1958, spending in the administrative budget is heading toward \$71.8-billion or so, and the road program toward \$1.6-billion. This comes to a total of \$73.4-billion, or \$3.15-billion more than this year.

• **Into the Coffers**—Receipts going into the administrative budget this year are scheduled for \$69.6-billion and so far are running comfortably ahead of that rate. In the next fiscal year they could easily rise by \$3-billion if the boom continues, which would leave a surplus of something like \$1-billion.

• **No Relief**—If business were to soften materially, the Administration would back a tax reduction. If the boom continues—and that is what the Washington forecasters now expect—the Administration will cling to the same no-tax-cut position (except for small corporations) it successfully maintained this year, unless the surplus for fiscal 1957-1958 promises to be much greater than the budget makers now expect.



## Hard to take? Lots easier with nickel in it

Cheer up, boy! You scarcely feel today's hypodermic needles.

Nickel-containing stainless steel needles are rust-free . . . almost painlessly smooth and sharp. Blood, body serums, antitoxins, vitamins, hormones, anti-coagulants, needle cleaning solutions, boiling water . . . none of these corrodes stainless steel. And none is harmed by it.

Nickel helps give these needles the flexibility that prevents breakage, too.

### Marvelously made

Ever look closely at a hypodermic needle?

It's a perfect miniature tube. So tiny that twenty-five side by side measure only one quarter of an inch across.

They're fine drawn, from tubing an inch or more in diameter, through dozens of dies. Worked down gradually . . . cold.

Nickel contributes importantly to the fine working properties of the stainless steels used. Helps

give them, too, just the right degree of strength, hardness, and flexibility.

**When you have a metal problem** in which corrosion, wear, high or low temperatures, stresses or fatigue are factors, *talk it over with us*. We may be able to help you.

**Write for "List A"** of available publications. It includes a simple form that makes it easy for you to outline practically any problem for our study.



**THE INTERNATIONAL NICKEL COMPANY, INC.** 67 Wall Street  
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# In Business

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## New Facilities Give a Boost To Titanium and Zirconium

Two of the hottest of the exotic metals kicked up their heels a bit this week.

Titanium Metals Corp. of America bought the Toronto (Ohio) steel plant of the Louis Berkman Co. The plant, with added equipment, will be converted into a rolling and forging shop, providing specialized facilities for attacking the exacting problems of finishing titanium alloys. TMCA is owned jointly by National Lead Co. and Allegheny Ludlum Steel Corp. Consumption of titanium mill products is expected to reach an annual 15,000 tons in 1958; last year it was only 2,000 tons.

Zirconium production was expanded when Allegheny Ludlum announced completion of a 25-ton consumable electrode furnace at its Watervliet (N. Y.) plant for the reduction of zirconium sponge into ingots. The furnace, and a twin to be built soon, will raise the company's ingot capacity to 63.5 tons per month.

This major expansion of capacity is a strong indicator of the growth of U. S. atomic reactor construction, since structural and shielding parts of reactors are the only present commercial uses of zirconium.

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## Sohio Deals Itself a Hand In Utah's Oil-Bearing Sands

Standard Oil Co. (Ohio) is trying its hand at extracting crude from the oil sands in Utah. A subsidiary, Sohio Petroleum Co., has acquired title to patented lands and placer claims on Asphalt Ridge, near Vernal, that had been owned by Orem Development Co.

Sohio is starting exploration and engineering studies, seeking an economical method of recovering the oil. If reserves prove large enough, a separation plant might be set up. In that case, a share in the profits would go to W. M. Barnes Co. and Knickerbocker Investing Corp. These companies had drawn cards in the corporate life of the Asphalt Ridge deposits since the first claims were filed by John T. Pope in the 1800's.

Asphalt Ridge is 15 miles long, with oil-saturated sands cropping out at many places. The overburden varies from a few feet to several hundred; oil content averages about one barrel per cubic yard of sand.

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## Ford Prices to Dealers Raised, Some Cuts at Retail Suggested

Ford Motor Co. has raised the price it charges its dealers for Ford cars. At the same time, it suggested a small retail cut on several models to bring their list price \$1 under Chevrolets.

In effect, 1957 Ford prices are now 6%-plus above 1956, instead of the 2.9% boost announced Sept. 29. Ford and Chevrolet price increases are now comparable.

Ford cut its discount to dealers on suggested prices to 24% from 25%—down to the Chevrolet level—and now get as much as \$42 per car more than on the Sept. 29 prices. The move could bring Ford up to \$25-million additional revenue.

In autos, price changes after original announcements are rare; Detroit observers believe Ford has had to revise its estimates of production costs.

## Nash and Hudson Prices Lowered

American Motors Corp. this week swam upstream against the auto industry trend when it dropped suggested list prices on its 1957 Nash and Hudson cars below the 1956 levels. At retail, the cuts range between \$200 and \$300; wholesale prices were cut, on the average a shade over 9%. The cuts, in a year of general boosts, indicate that AMC is making progress in chopping down production costs.

The company says the 1957 prices of its smaller line, the Ramblers, will be up slightly, but still the lowest in their field.

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## Business Briefs

Terms of an agreement made by Pickands Mather & Co. with Canadian Javelin, Ltd., reveal a larger purchase commitment than reported last week (BW—Oct. 20'56,p36). Pickands Mather has agreed to buy annually during 1959-1964 up to 2-million tons of iron ore pellets, which Javelin will produce on its property. John C. Doyle, Javelin president, said the company had in its offices contracts with 13 German steel producers. He also pointed out that his company is tax free on land.

The Missouri-Kansas Texas RR plan to issue debt securities to swap for its 7% preferred stock is defective and a severe dilution of the road's debt securities, according to an ICC examiner. He urged the Commission to reject the plan, affecting the Katy's 667,005 shares of \$100-par preferred, on which dividend arrears were \$154 a share on Jan. 1.

The Chicago Tribune plans to operate its newly acquired Chicago American as a separate unit, with a status within the Tribune family similar to New York's giant tabloid, the Daily News. Last week the Tribune bought the American for a price guessed as high as \$12-million, thus ending the Hearst operation in Chicago that began in 1900.

Ford Motor Co. has buttoned up arrangements for the \$250-million loan it has been seeking. A group of institutional lenders will provide the money on 4% promissory notes, due in 1976. The group includes life insurance companies and the trustees of various pension plans.





## Will Your Company Sell Its Share In This \$7 Billion Home Entertainment Market?

American families, by 1965, will be spending an estimated \$7 billion a year to bring entertainment into their homes. This expenditure is *more than double* last year's figure of \$3 billion. Manufacturers of these products will have abundant opportunity to turn in top sales performances during the period ahead.

Essential for profitable operation and expansion of companies whose products supply the nation with entertainment at home is commercial bank credit such as The Bank of New York provides.

The senior officers of this Bank are readily available to discuss *your* requirements.

## THE BANK OF NEW YORK

*New York's First Bank • Founded 1784*

Main Office: 48 WALL ST. ☆ Uptown Offices: 513 FIFTH AVE. ☆ MADISON AVE. AT 63rd ☆ MADISON AVE. AT 73rd  
(Temporary During Construction)

Member Federal Deposit Insurance Corporation

# LIBERTY MUTUAL

*The Company that stands by you*



## LOST: One leg SAVED: One man

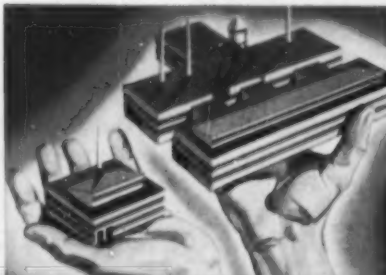
(A LIBERTY REHABILITATION STORY)

In Arkansas a one-ton boulder dropped on a worker's foot. Then followed a long, painful time of trying to save his badly crushed foot. About nine months after the accident, despite expert care, his leg had to be amputated. This was a dark moment, but the brighter part of his story began soon when he left for Liberty Mutual's Rehabilitation Center. The man from Arkansas was a good patient, eager to use his new artificial leg, eager to get the most from the Center's expert therapy. In three weeks he left the Center. Back at work, it wasn't long before he was promoted to boss on the "graveyard shift." In a night he'll now walk more than six miles on the job, up ladders, over fallen rocks and debris. He's a good example of Liberty

Mutual Rehabilitation — part of Liberty's Medical and Health program that helps reduce compensation insurance costs and saves good men for America.



**NEW ARMS AND LEGS MADE TO ORDER.** At Liberty Mutual's Rehabilitation Centers amputees are fitted with "custom-made" artificial limbs, taught to use them so as to become self-sufficient. 80% of all these patients go back to work.



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WORKMEN'S COMPENSATION, AUTOMOBILES,  
LIABILITY, FIRE, GROUP ACCIDENT AND  
HEALTH, MARINE, CRIME

# WASHINGTON OUTLOOK

WASHINGTON  
BUREAU  
OCT. 27, 1956



Some points to remember on the election returns.

You may get the tipoff from any of four states: So, as you watch the returns, keep in mind that reports from these states may well tell the story.

In the Northeast, Massachusetts will be important. Returns will be coming in fairly early, and they usually reflect the general New England outcome.

In the Middle Atlantic tier, Pennsylvania is the one to look at.

Ardent Stevenson partisans agree they must have this state to win.

In the Midwest, it's Minnesota. That's a big union state with a good-sized farm vote, too. It might show how things go in the whole region.

In the Far West, California is the spot to watch. It has the biggest electoral vote—32—west of Pennsylvania.

If the first three go Republican, an Eisenhower sweep should be in the making. If Stevenson wins two or more, you'll know a horse race is on. Even New York would not necessarily clinch the prize for Eisenhower then. You recall Truman lost New York and still won.

How do the Democrats figure they can win? How can they get the necessary 266 electoral majority to take the White House from the GOP?

They start with 89 votes—the score Stevenson made in the '52 race. He got these last time in seven Southern states—Alabama (11), Arkansas (8), Georgia (12), Louisiana (10), Mississippi (8), North Carolina (14), South Carolina (18)—and two border states—Kentucky (10) and West Virginia (8).

The Democrats' finish fight will be for 177 more votes. That's what it will take, on top of 1952's performance, to win. Here's their current hoping:

In New England, Democrats figure they have a good chance in Massachusetts and Rhode Island, with a total of 20 votes. That would bring them up to 109.

In the big three Middle Atlantic states, Stevenson counts most on the state of Pennsylvania. A win would add 32, lift the total to 141.

In the six so-called border states, the hope is to hold Kentucky and West Virginia and to add Delaware (3), Missouri (13), and Oklahoma (8). That would bring the total to 165.

In the South, the figuring is that Stevenson can get back Florida (10), Texas (24), Tennessee (11), and Virginia (12). That would add 57 votes, for a total of 222.

In the Midwestern farm states, Minnesota (11) is considered the best bet. That would raise the total to 233.

In the Rocky Mountain states, eight in all, only New Mexico (4) rates high on the claiming list. That would make 237.

On the West Coast, California is the big hope. Its 32 votes would put Stevenson over the hump with 269.

What are the chances that Stevenson will pull this off? No one can be sure, of course. The betting odds are worth noting. Right now, most of

# WASHINGTON OUTLOOK (Continued)

WASHINGTON  
BUREAU  
OCT. 27, 1956

the betting on Stevenson is 1 to 3, after a brief shift a couple of weeks ago to 1 to 2½ or even 1 to 2. What this says is that the betting people don't think Stevenson will make it.

**Here's some Truman thinking on the picture:** The Democrats are strong as a party—in the best position since 1936, when Roosevelt made his biggest sweep. Chances of taking some new governorships and of holding majorities in the House and Senate are very, very high. The big weakness is Stevenson, himself—he lacks the common touch needed to capitalize on the party's strength.

—●—  
**Eisenhower will wind up the campaign running hard.**

**Fact is, GOP hopes are on the rise.** In late September and early October, the Democratic boom caused uncertainties. Now, the picture is much different. Rightly or wrongly, the Eisenhower side buys the idea that Stevenson peaked up too early and is now on the decline.

**Take the South, for example:**

**Virginia will split again.** One of its sons, T. Coleman Andrews, heads a third-party ticket—campaigning against the income tax. The veteran senator, Byrd, has come out for Democratic candidates for local office. He never mentioned the White House candidate, Stevenson. The faithful in Virginia take this as meaning it's O.K. if you vote Democratic locally and vote whatever way you please on the national ticket. GOP hopes stay alive.

**In Florida, Eisenhower still has a good chance.**

**Texas is no sure thing for the Democrats.** The odds give it to the party of the South. The worry is that Gov. Allan Shivers' faction, which gave the state to Eisenhower in 1952, isn't nearly so dead as the forces of Senate leader Lyndon Johnson would like to have it. It's a fight.

**As for New England, Eisenhower's camp concedes nothing.** It's agreed that the Democrats may be better off than in 1952. The question is whether the gains are big enough to take such a state as Massachusetts.

**New York, the biggest electoral voter of them all (45), is rated safe for Eisenhower.** In fact, the New York Daily News poll is so lopsided that many observers interpret it as a walkaway comparable to 1952.

**Pennsylvania will be tough.** The Democrats have scored big gains in the off-elections. GOP Sen. James Duff generally is rated to have a very thin chance. However, most observers say that Eisenhower will carry the state.

**You hear lots about Republican troubles in California.** That's the home state of GOP Vice-Presidential candidate Nixon. Politically, it's a mixed-up state. But most political travelers who have covered it come back reporting that Eisenhower and Nixon have the edge.

—●—  
**For the last week of the campaign Democrats will be able to talk again about a record high cost of living.** The September figure, out this week, is a tenth of a point above the record of 117.0 set in July.



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Portland, Seattle (Wilson & Geo. Meyer & Co.),  
Toronto, Montreal (Paper Sales, Ltd.).



## What happened to the "Seven Wonders of the World"?

**A**ROUND 200 B.C., Antipater of Sidon listed seven\* in his wonderful world. But time's measured tick leveled them all—save one, The Pyramids of Egypt.

Consider modern wonders: the towering skyscraper . . . the graceful suspension bridge . . . the huge power dam. Such miracles of construction are found everywhere. And they are built to endure for generations. Designers have at their command today vastly superior constructional materials in

alloy and stainless steels, whose enduring properties are "built in" with Vancoram ferro alloys. Strong, tough and wear resistant, they are proof against the ravages of time.

Through its research facilities, VCA works constantly to develop new and better products, to improve the performance and efficiency of practically every machine and structure we know . . . help make possible new wonders for the world.

*\*Hanging Gardens of Babylon • Temple of Diana at Ephesus • Statue of Zeus by Phidias • Mausoleum at Halicarnassus • The Pyramids of Egypt • Pharos of Alexandria • Colossus of Rhodes*



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1906 • 1956

Ford Motor Co.'s Mercury line for 1957 (right) is leading Detroit's shift to "marketing" rather than "selling." Under the new theory . . .



## Science Can Find Their Market

The auto industry's mass selling technique is a wondrous system that each year puts on the highways more than 6-million new cars, worth around \$12-billion. Other consumer industries often look on the system as a model on which they, too, should pattern their methods. But these days, the men in the auto factories have growing doubts about the efficacy of the system they've developed.

"It's as old-fashioned as high button shoes," says one.

"Selling is more than just a salesman's job," says Ford Vice-Pres. F. C. ("Jack") Reith, manager of the Mercury Div. Reith and others in the auto industry are coming to realize that selling is but a part of marketing, a science involving such things as highly specialized and detailed research and analysis.

As this idea seeps in at Detroit, you're finding that:

- There's a vice-president for marketing (not "sales") at Ford Motor Co., and this is the first time that men long in the industry can recall such a title on an auto company's organization chart.

- There's a new marketing (not "selling") organization at Chrysler Corp. that will coordinate and direct all merchandising from a central office, instead of leaving it to the separate divisions.

All this is more than an exercise in semantics. The proof of that lies in what has been happening inside Reith's Mercury Div. To sell a 1957 car that's unlike any other in the industry (picture, above), Mercury has set up a marketing organization that—so far, at least—is also unlike any other in the industry. The "General Sales Dept." that you find in almost every other auto division has gone, superseded by a "General Marketing Dept." At Mercury, this is headed by George S.

Coats, a former assistant sales manager who's a convert to the marketing concept.

- **Theories at Work**—The department's "Marketing Analysis & Planning Manager" is on the same level as the sales manager. The man who fills this spot is Robert W. Chambers, a former faculty member of the Harvard Business School. And Chambers is at the heart of what Mercury is trying to achieve through its new organizational set-up: Adapting the theories and techniques of marketing, as espoused by business schools, to automobile merchandising.

Such an aim, and adoption of such means to achieve it, aren't wholly new to industry. The appliance industry among others latched on to the idea of emphasizing marketing—as against selling—a few years ago. For example, the key man in General Electric Co.'s selling organization is the marketing manager (BW—Apr. 18 '54, p142). And it's significant that a former GE marketing man, James J. Nance, one-time chief of GE's Hotpoint Div., is a new Ford vice-president.

But among the auto producers, Mercury is the first to attempt to make fullest use of a scientific marketing concept. It has been driven to this partly because of its own special problems, partly because of the kind of car it has to sell in 1957, and partly because of the course Ford Motor Co. has charted to find a bigger market for its products.

### I. The Passing Medicine Show

Under these pressures, Reith has led Mercury into the task of resolving one of the industry's most perplexing problems—one that has particular pertinence at Mercury. It is: Who are the buyers?

It has become a problem because the auto market has changed. In earlier days

the three low-priced cars were basic transportation, sold to people who wanted or needed wheels and nothing fancy. The medium-priced cars were for professional people (a Buick was "the doctors' car"); the high-priced cars were for bankers and the country-club set.

Since then, the increased size, power, and optional equipment on the low-priced cars, the rising income pattern, the growth of two-car families have battered the old ideas of the auto market. You see Cadillacs, Lincolns, and Chryslers parked outside factory workers' homes today, along with the Fords, Chevrolets, Plymouths, and Buicks. Almost every auto maker can find his buyers in any place in the income strata.

A precisely defined market is gone, and even a supersalesman can't find it. "The medicine show has passed . . ." says one executive at Ford, " . . . The snake-oil salesman can't draw an audience."

- **New Men**—This change has fed back to the factories. Until very recently many of the auto divisions were headed by salesmen, in fact if not in title, because selling was the climactic act in the auto business. But now, a more complicated economy of hidden markets, cost analysis, and cost control has put a different type of man at the head of most auto divisions. No matter where he started in the organization, his bent today is business management.

"The division general manager has the finance load," says L. D. Crusoe, executive vice-president for cars and trucks at Ford. "So he should run the division, and he needs the tools." Mercury's General Marketing Dept. is one of Jack Reith's most important tools.

- **Long Growth**—The idea of building this tool grew up at Ford several years ago when Reith was working for Crusoe in Ford Div. Reith served in two other

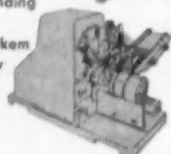


## MARKEM

solved these  
marking problems

### marking fountain pen refill cartridges

Molding a red tip and imprinting cartridge proved costly, caused refill to warp. Markem was given the problem, devised method of simultaneously color-banding tip and imprinting instructions, using a Markem 20A machine. Costs now lower, production up, customer satisfied!



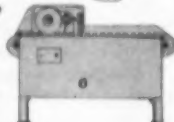
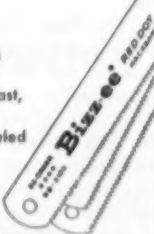
### imprinting phono records

Eliminating all the problems — and expense — of paper label inventories and application, were the important benefits gained from the Markem Method. Standard 25A machines now imprint records directly — using Markem printing elements and Markem marking compounds to produce clear, high quality imprints.



### printing hacksaw blades

Manufacturer needed a fast, economical way to mark complete detail on enameled hacksaw blades. For printing entire blades up to 30" long, at a rate of 30 per minute, a Markem 65A machine was recommended. Successful use resulted in purchase of a second Markem machine.



For product, part or package marking that tells and sells more for you, contact Markem Machine Co., Keene 33, N. H.



key Ford posts before taking charge of Mercury in April, 1955, and resurrecting the marketing department idea. The elements of it were slowly tested and put together before the General Marketing Dept. was formed last month.

One of the key elements—which proved to Reith the concept was sound—has been in the crucible for more than a year.

This is what Reith calls the "X-Ray Study." This study goes into operation when, for example, Mercury sales lag in a certain locality. A team of analysts from the home office swarms over the area trying to pinpoint the trouble. Their questions: How are general economic conditions in the area? How are competitive makes selling? What is the general retail picture? What about disposable income? Are the dealers' methods or management at fault? All factors bearing in any way on Mercury sales are isolated and studied. Reith and his marketing chiefs examine the report and act. Wherever the technique has been tried, sales have increased.

• **Finding the Buyers**—In essence, the job of George Coats' department is to broaden and deepen the X-ray study, nationally, regionally, locally, by income and other groupings to nail down (1) the potential for any medium-priced car, and (2) the potential for Mercury. Broadly speaking, Mercury Sales Manager Chester E. Bowie tells dealers how to find customers; but Bob Chambers, through Coats, tells Bowie where to instruct the dealers to look.

Bowie, although trained in the traditional type of auto sales department, is all in favor of the change. "It frees the sales manager to concentrate on selling cars," he says.

This change at Mercury was timed for the introduction of the 1957 product; it had to be. "The Mercury dealers were driving a one-horse shay," says a Ford executive. "Now they have a fast horse, and will need guidance."

## II. The "Challenge" Car

For years Mercury dealers have been out-classed. They have been selling a product that was, intrinsically, a beefed-up Ford. Ford and Mercury have shared a common body shell; the room inside—the "package size"—was the same, no matter what the exterior looked like.

"About three years ago," Ernest R. Breech, Ford board chairman said recently, "the Mercury Dealer Council made strong recommendations to us that the Mercury should be a large distinctive automobile, in no respect having any sheet metal panels interchangeable with the Ford car. They impressed us fully with the desirability of the Mercury being completely com-

petitive with, primarily, Buick and Oldsmobile in size and weight."

Breech's reference by name to competitive automobiles in a public speech was unusual, but deliberate. "In July, the month in which Mercury reached its highest point of penetration this year, General Motors captured 61% of [the medium-price] market—more than four times Mercury's 14% share of the same market. If Mercury had equaled Buick's penetration in 1956, it would have sold about 225,000 more units."

• **New Shape**—The 1957 Mercury—which will appear in the showrooms Nov. 12—has its own body shell, comparable with the "B" body shared by Olds and Buick's Century and Special. The wheel base is the same as that of Buick, 122 inches, and three inches longer than that of the 1956 Mercury. The over-all length has been increased five inches. And, moreover, there is not a line, not a body panel, common to the Ford.

Crusoe calls it the "challenge car of the year . . . a daring challenge to the present leaders of the medium-price market." The roof is flatter and appears thinner than the public is accustomed to (the stylists call it "crisp"), the V-shaped tail-light housings are unmistakable identification marks, the grooves in the rear fenders (the stylists call them "projectiles") are unlike any sculpture on other cars, the oval-shaped bumpers are identical on front and rear. There's a sharpness of line and plainness of surface unrelated to other Ford designs.

Under the rear of the car a doughnut-like air cushion is combined with leaf springs to give the car a better ride. Up front there's a 255-hp. engine (a 290-hp. engine is also available) with a 9.75-to-1 compression ratio. The engine fan is geared so that it can idle when the car is cruising, for a claimed saving of up to 17 hp. Inside, there's a push-button transmission selector and, as optional equipment, an automatically adjusting seat.

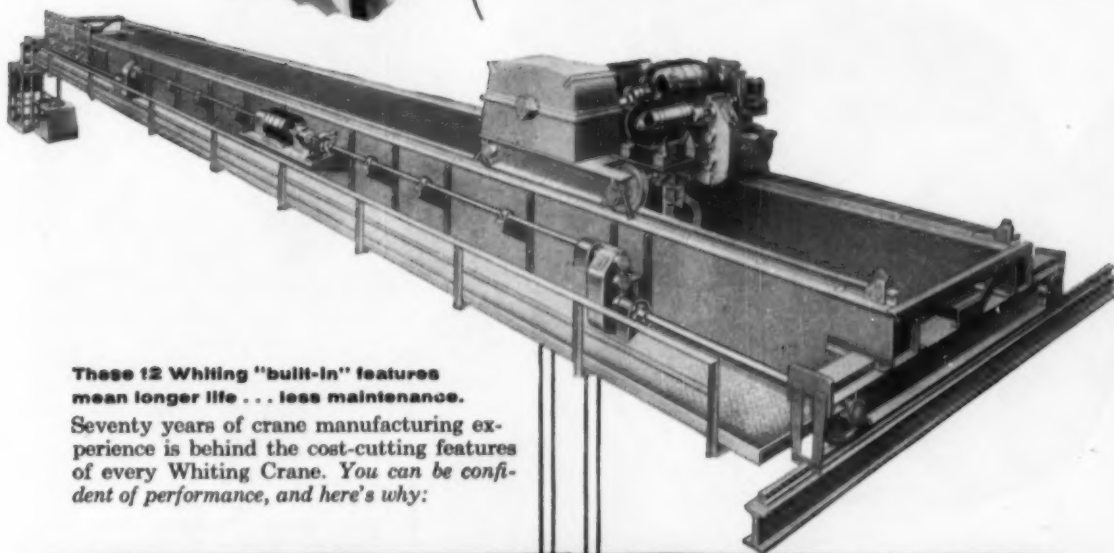
• **Star on the Lot**—Around Ford Motor Co. there's no mistaking the fact that though the Ford car still has to win its fight with Chevrolet, the emphasis for the moment is all on Mercury. More than \$100-million was lavished on the 1957 model (\$400-million if you include new plants). And the reason is that the marketing men, according to Breech, are predicting that 2-million cars in the medium-price range will sell this year.

If the total sales increase next year as expected, this market will be even bigger, and Breech expects Mercury to gain more than 100,000 additional sales in it. Reith is aiming at 6.5% of the total market, thus increasing his





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11. Precision machined herringbone gearing
12. Moving parts accessible from wide steel walk with safety tread

#### RESULTS

1. Speeds selected to match production
2. Greater visibility for operator
3. Easier control of all crane motors
4. Easier stopping of crane bridge
5. Longer wheel life
6. Longer bearing life
7. Longer motor and gear life
8. Safer suspension of loads
9. Safeguard for workman's hands
10. Lower maintenance
11. Quieter operation
12. Easier, safer inspection and maintenance



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**BALTIMORE & OHIO RAILROAD**

Constantly doing things — better!

"... Ford must be shooting at the broad, shifting, medium-price field..."

MERCURY starts on p. 47

sales from around 300,000 this year to about 435,000 in 1957.

Mercury's high goals are motivated by Ford's long-range plan for broadening its markets.

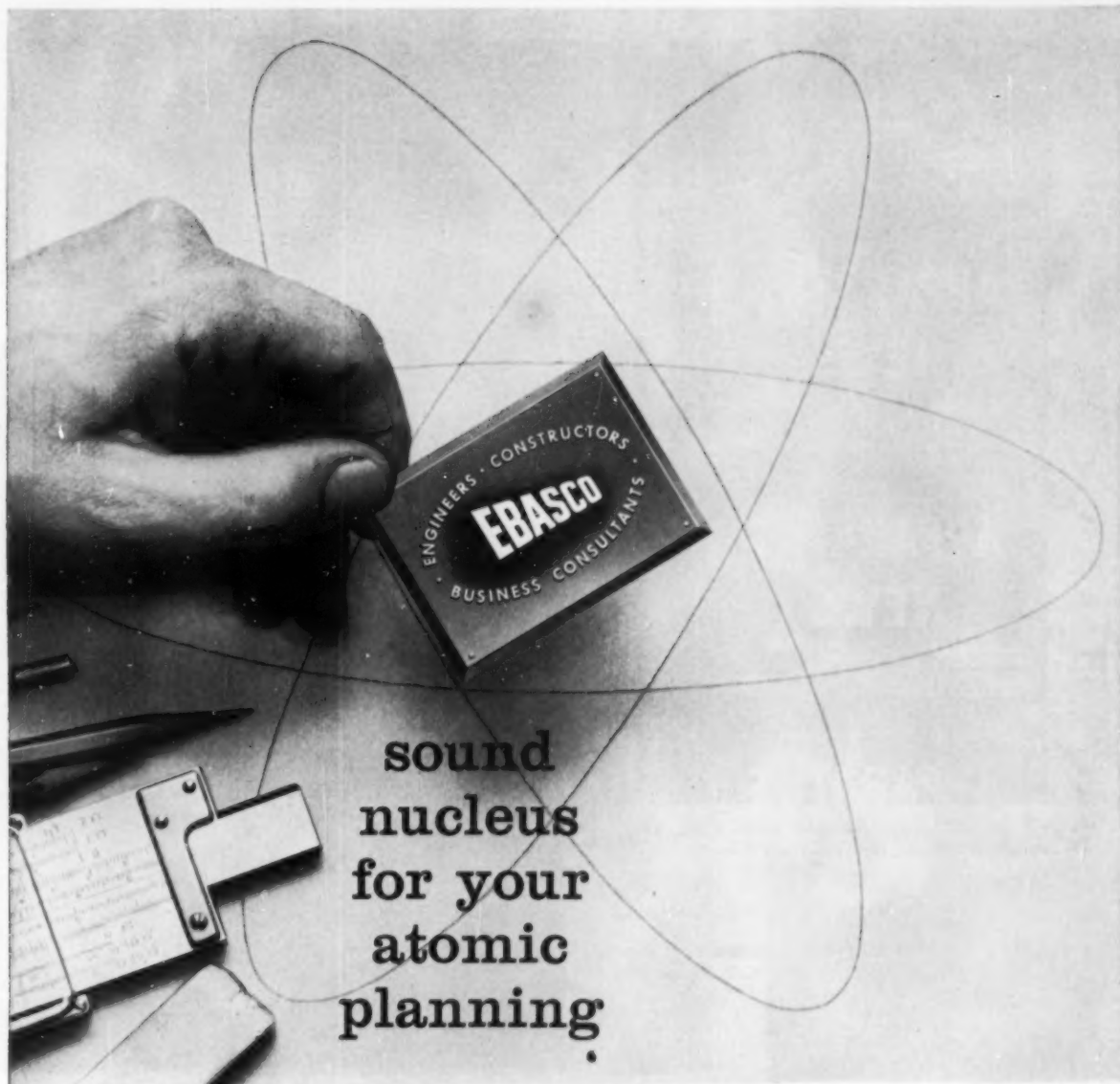
## III. Working the Fringe

One step in that plan was the splitting of the Lincoln-Mercury Div. into two separate car-producing operations. Reith took over Mercury just when this split was made. He, like just about everybody else in the auto industry, had long understood that some day there would have to be separate dealer organizations if Mercury was to be boosted to higher volume. Along with that understanding has gone the industry supposition that since Lincoln's volume is too low to support its own dealer force, Ford must be planning another line of cars—most probably a medium-price job.

• **Line for 1958**—The logic in that proposition is so strong that Ford people no longer hide the fact that their Special Products Div., under Vice-Pres. Richard E. Krafve, is working on an "E" car for the 1958 market. Obviously, the new car will not be priced above Lincoln—for that is where Continental is limping along. Just as obviously, it can't be in the low-price range where Ford is battling to stay in the race with Chevrolet. So the conclusion is that Ford must be shooting at the broad, shifting, medium-price field that Bob Chambers has such difficulty defining.

If that conclusion is sound, it puts Mercury on its mark to carve out a larger chunk of the market before it gets even more competition from within its own family. It's unlikely that Ford would bring out a new car to give Mercury across-the-board competition before Mercury has a chance to solidify its own position. But the upper and lower fringes of the medium-price class—where Ford, Chevrolet, and Plymouth squeeze from one end, and Chrysler and the big Buicks and Oldsmobiles from the other—are attractive. The difficulty is that no one is sure where those fringes begin or end.

That's what Coats' General Marketing Dept. has to find out and exploit. "You can't approach this question on a brute strength basis," Coats says. "You have to change your methods with the times." **END**



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TWICE A MONTH GE's industrial salesmen see new version of Apparatus News, Hollywood-type newsreel.

ON LOCATION, Apparatus Sales Div. men shoot new freighter in N. Y. harbor.

IN THE STUDIO in Schenectady, professional newscaster Leon Kelly goes before camera for bi-weekly news roundup.



## Camera

**S**TARTING NOV. 5, some 4,000 General Electric industrial sales engineers will be seeing a movie newsreel of the freighter John Sergeant—first large merchant ship powered solely by a gas turbine engine (made by GE)—as it was greeted recently in New York harbor (pictures).

This is the main feature of the Apparatus Sales Div.'s latest bi-weekly version of the old-time Hollywood newsreel, translated into industrial marketing terms.

Called Apparatus News, the 20-minute movies—shot on location by company camera crews and the ASD's studios in Schenectady—have become a regular part of the GE industrial selling program.

• **Problem Solved**—After more than a







PLANS for newsreel are worked out by advertising and sales promotion department.



PRODUCTION is completed in the cutting room and in the soundtrack room.

## Passes the Word

year's trial—31 newsreels have been produced thus far—Vice-Pres. W. V. O'Brien, head of apparatus sales, is convinced they go a long way toward solving his organization's basic problem: fast and productive communication on everything from major policy changes to the latest sales gimmick.

In 14 days, ASD's 4,000 salesmen can be shown whatever sales message top management thinks necessary—and in a form that has the impact of a personal call by a product department general manager or O'Brien himself.

• **Centralizing Sales**—ASD is the selling arm for about 40 GE industrial goods manufacturing departments, all autonomously managed and turning out a complex line of goods—heavy turbines to fractional horsepower

motors—that move in a highly technical group of markets. Salesmen are under constant pressure to keep up with new and improved products and new applications.

With 14 geographical districts and about 145 offices, ASD centralizes all field sales work, including advertising, service, and installation. Any other setup would be virtually impossible, since, as O'Brien points out, "you can't have 40 salesmen calling on one customer."

The newsreel idea emerged from a meeting of ASD's advertising and sales promotion department. GE considers it the best answer it has found so far—better than canned talks, sales literature, and other media.

• **Now Playing**—The current edition



## America's new kind of man

*The jobs he holds never existed before*

Electronics has developed so fast that the very term is just now finding its way into the dictionary.

There are important jobs in electronics that have not yet been named, that didn't exist a year or two ago.

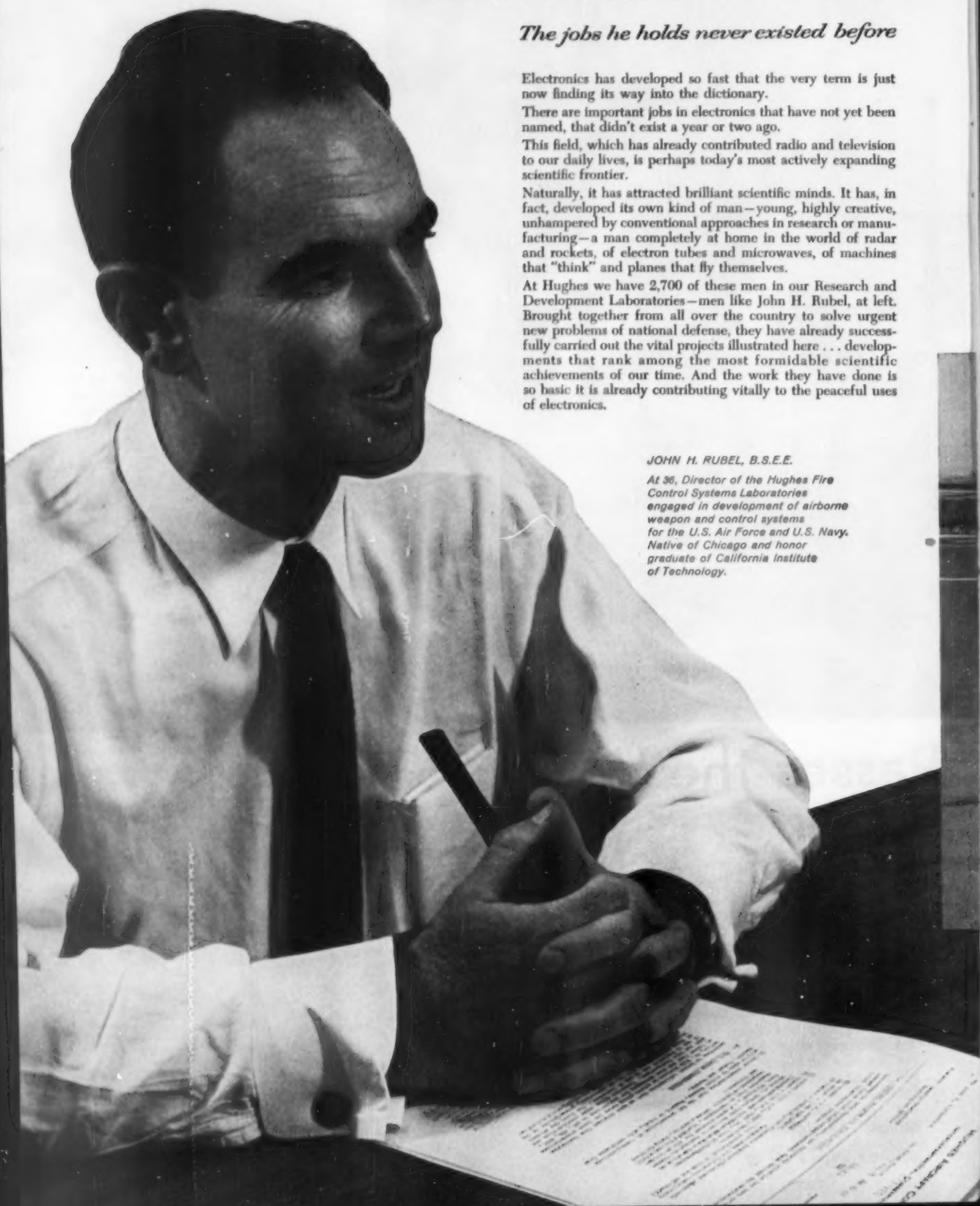
This field, which has already contributed radio and television to our daily lives, is perhaps today's most actively expanding scientific frontier.

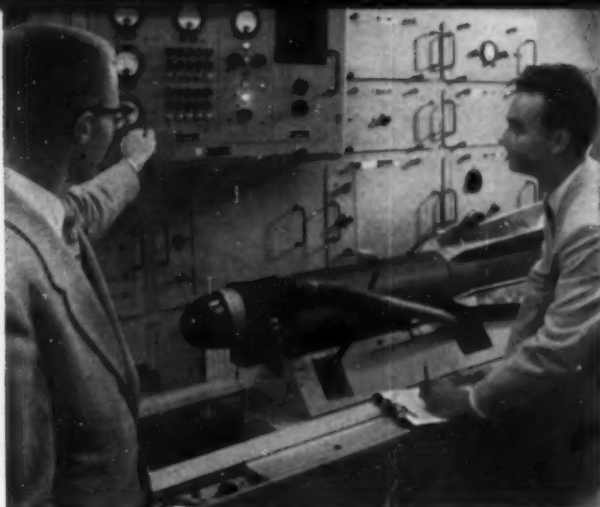
Naturally, it has attracted brilliant scientific minds. It has, in fact, developed its own kind of man—young, highly creative, unhampered by conventional approaches in research or manufacturing—a man completely at home in the world of radar and rockets, of electron tubes and microwaves, of machines that “think” and planes that fly themselves.

At Hughes we have 2,700 of these men in our Research and Development Laboratories—men like John H. Rubel, at left. Brought together from all over the country to solve urgent new problems of national defense, they have already successfully carried out the vital projects illustrated here . . . developments that rank among the most formidable scientific achievements of our time. And the work they have done is so basic it is already contributing vitally to the peaceful uses of electronics.

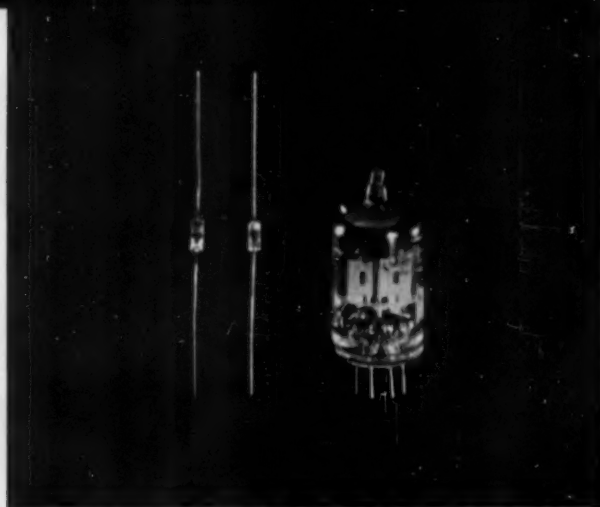
**JOHN H. RUBEL, B.S.E.E.**

*At 36, Director of the Hughes Fire Control Systems Laboratories engaged in development of airborne weapon and control systems for the U.S. Air Force and U.S. Navy. Native of Chicago and honor graduate of California Institute of Technology.*





**"Thinking missile,"** the Hughes Falcon, undergoes simulated flight test. Released from a fighter plane, the Falcon sets out on its own at supersonic speed to seek enemy bomber... "sees" and finds its way to target with deadly accuracy... explodes with force of artillery shell. The Falcon—first U.S. air-to-air guided missile with its own "brain"—was created and is manufactured solely by Hughes.



**Mighty midgets.** Two tiny Hughes diodes shown above, at left, replace bulky vacuum tube 100 times their size, do better job. Major problems of size and weight were solved largely by "miniaturization." Nature of Hughes work demands utmost skill and knowledge from 2,400 technicians, as well as from 2,700 scientists and engineers. Hughes has grown from 900 people to 24,000 in only eight years.



**Plane's nervous system**—Hughes automatic weapon and control system in foreground—fits compactly behind nose of interceptor. System, developed and manufactured by Hughes for all U.S. Air Force interceptors, includes electronic "eye" and "brain." It can locate approaching enemy day or night in any weather, guide plane at supersonic speeds, automatically fire weapons at right time to score hit. Only men of fresh outlook, of bold imagination were found capable

of solving the unconventional problems posed by the Hughes projects. Hughes scientists and engineers *average only 31 years of age*. Yet one in four has his Master's Degree, one in fifteen his Doctor's. Together they form a reservoir of creativeness, a battery of sheer scientific brain power, almost without parallel in industry. They have other spectacular projects, some highly secret. They will be heard from again and again in the development of both military and commercial electronics.

Creating a new world with **ELECTRONICS**

**HUGHES**



# CHOICE

*Take yours—  
from the complete line of*  
**JOMAC  
WORK GLOVES**

Whatever your handling operations may be, you can choose with confidence the Jomac Gloves that are right for them. And you can be sure of getting quality—lasting quality, stemming from 18 years of pioneering and leadership in the industrial work glove field.

Jomac Work Gloves are:

- made of cut-resistant, loop-pile Jomac Cloth—the fabric that protects hands from cuts and abrasion like no other
- manufactured in knit wrist, safety cuff or gauntlet styles—in heat-resistant, flame-proof, plastic-coated types
- great for economy—can be used, cleaned or reconditioned, and reused again and again
- adaptable—many styles are interchangeable, with 4 long-wearing surfaces per pair
- rugged—they outwear canvas gloves by a profitable margin!

Jomac manufactures all types of hand-to-shoulder protection. The choice is yours.

## FREE JOMAC CATALOG

Write us (on your company letterhead) for your free Jomac Industrial Work Gloves Catalog—and for recommendations on types of gloves to use for your handling operations. We'll gladly supply sample gloves. Address: Jomac Inc., Dept. A, Phila. 38, Pa.

**JOMAC**  
**INDUSTRIAL  
WORK GLOVES**

PLANTS IN PHILADELPHIA, PA., AND WARSAW, IND.  
IN CANADA: SAFETY SUPPLY CO., TORONTO



SALESMEN in Schenectady area watch a run of the latest GE newsreel, which will be going out soon to 4,000 sales engineers.

of Apparatus News, besides the arrival of the John Sergeant and a camera tour of the ship, includes:

- Pictures of the new gas turbine for helicopters, T-58, undergoing tests in Schenectady.
- A development engineer in the electrical distribution assemblies department at Plainville, Conn., reviewing features of a new product for commercial buildings.
- A discussion of the state of the utility market.
- A Boston meeting of GE paper industry sales people.
- Finally, a short news roundup by professional newscaster, Leon Kelly.
- **On Location**—Cameramen have ranged from the St. Lawrence Seaway to St. Petersburg, Fla., and San Jose, Calif. To put this kind of package together, ASD set up a separate section under the visual education group, which has been making industrial movies (chiefly for customer showing) for years. Top men in advertising and sales promotion lay the plans.

R. B. Reid, advertising and promotion head, says opinion surveys show what the salesmen want. New products and developments come first, followed by management policy news from ASD headquarters in New York, marketing news, new sales and promotional programs, and news from other parts of GE.

Ideas come from ASD districts themselves or from manufacturing departments. The whole project requires tight scheduling, to keep the shows newsy and at the same time within a limited budget (ASD doesn't give out its cost figures).

• **Showing**—Once produced, each bi-weekly edition gets 39 prints, so that over half the 58 regional offices see it at once. Using projection facilities already provided for customer movies, regional managers schedule one big meeting for their salesmen or scatter showings over three or four days of the week (now, even clerical and secretarial help want to see the newsreels; so special luncheon showings are sometimes scheduled).

From the start, spectators have liked the idea, though some had some reservations. As the bugs got worked out, though, comments have become more and more enthusiastic. A survey made after the showing of Newsreel No. 10 showed that the average district employee had seen between seven and eight of the 10 films shown.

One big advantage of Apparatus News films—besides the fact that salesmen get what would otherwise be a rare chance to tour plants and see products such as the ocean-going gas turbine in action—is strongly felt at ASD headquarters: "It saves time and travel of top management." **END**





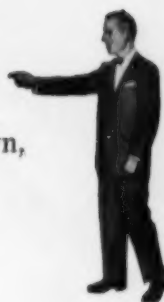
Since installing **it** we've saved thousands of dollars.

We don't have a stand-by unit because **it** is so dependable.



After 21 years of success with **it**, we expanded our plant with a second.

We never worry about a breakdown, **it** is so reliable.



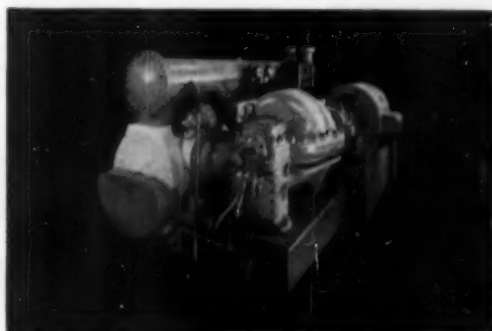
**it** has run for 15 seasons without breakdown or major service.

**it** is a Carrier Centrifugal Refrigerating Machine



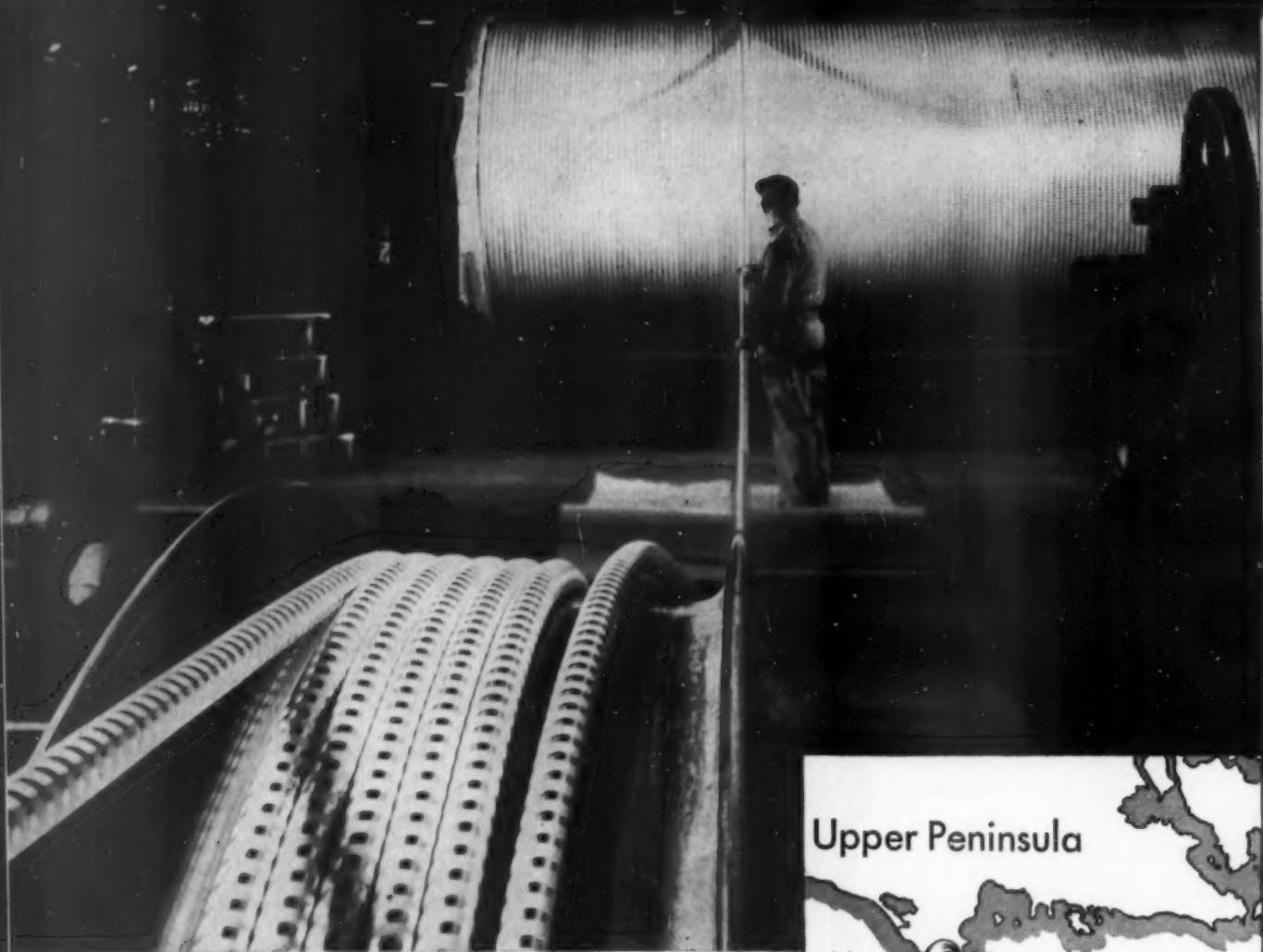
YOU'LL HEAR many comments like these about Carrier Centrifugals, which have a record of service unequalled by any other centrifugal refrigerating machine. They provide reliable, low-cost performance in widely different industries—in textile mills, refineries, chemical plants, breweries, food and meat packing plants, and other plants requiring continuous and precise temperature control.

Carrier Centrifugals are designed to operate day after day, around the clock, without interruption. Many of them installed more than 30 years ago, are still in operation. In fact, over two-thirds of the installed centrifugal capacity in operation today is Carrier. Want complete facts about them? Call your nearest Carrier office—or write Carrier Corporation, Syracuse, New York.



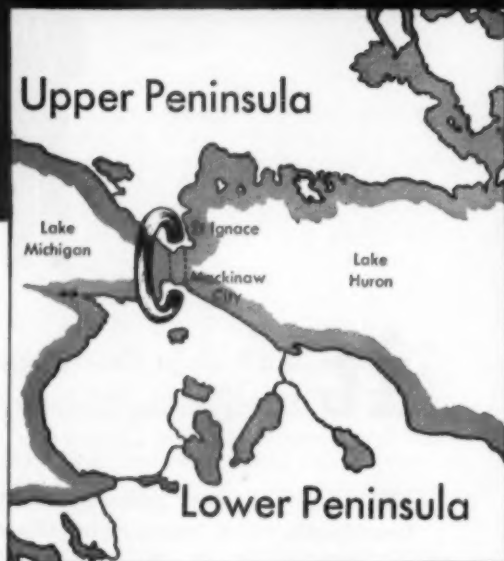
air conditioning  
refrigeration  
industrial heating





Since its manufacture for Consumers Power Co., this 46,000 volt underwater cable has been installed across the Straits of Mackinac (see map). One of four lengths that totaled nearly  $\frac{3}{4}$  million pounds, this power link contains over 900 miles of copper conductor and steel armor wire, 23 tons of paper and insulating oil and 2 carloads of lead.

## **"MISSING LINK" TURNS UP IN MICHIGAN!**



And Michigan is fit to be tied! Tied together, that is, for the first time in history by a 46,000 volt power link consisting of four huge Okonite underwater electric cables—each four miles long—stretching across the bottom of the Straits of Mackinac

between Michigan's upper and lower peninsulas.

This link is another example of the reliance which utility and industrial companies place on Okonite cables for circuits that must not fail. The Okonite Company, Passaic, N. J.



where there's electrical power... there's

**OKONITE CABLE**

James Nelson, an aspiring young tycoon from east of the Hudson, goes west to carve out his fortune. In grappling with the vending machine business he learns...



## How to Get Stuck With Gumballs

In these days of big business, successful businessmen tend to forget just how much enterprise private enterprise may call for. James Nelson (picture), the cheerful young author of *The Trouble with Gumballs*, takes on the job of refreshing the minds of the economically blase about the struggles that can attend a very private enterprise. Simon & Schuster, New York, N. Y., published the book last week (price: \$3.50).

A few years ago, Nelson gave up his post as illustration editor of *BUSINESS WEEK* (before that he had put in a stint as marketing editor) to go out into the world, in the best classical tradition, to seek his fortune. He piled his wife and youngster and household gear into a truck, headed for California. *The Trouble with Gumballs* tells the story of his first encounter with private enterprise in the raw.

Nelson chose a tricky business to grapple with: the vending machine business. His tale will probably strike horror to the souls of old pros in this field. Many big companies have carefully worked out plans to help an aspiring young tycoon set up a vending operation. Such people, on reading his book, will surely say, "We could have told you so."

The book has value, though, even for the sophisticate. It isn't often that the day-by-day headaches of establishing a business are described graphically and with humor. It's true that on one count Nelson isn't a typical capitalist. Most young men setting out on their own dream of wealth and power. Nelson wanted more than anything else freedom to enjoy life in his own way. But though his motive may not be common to many young entrepreneurs, the energy with which he tackled the job is.

Freedom, to Nelson, meant quite simply: time. So, when he reached his chosen Mecca—California—it isn't too surprising that he succumbed to the lure of such ads as this:

See what vending machines can do for you!

Cash investment	Working hrs. per wk.	Net up to wkly.
\$500	4 hrs.	\$50
750	6 hrs.	75
1,000	8 hrs.	100
2,500	20 hrs.	250
5,000	40 hrs.	500

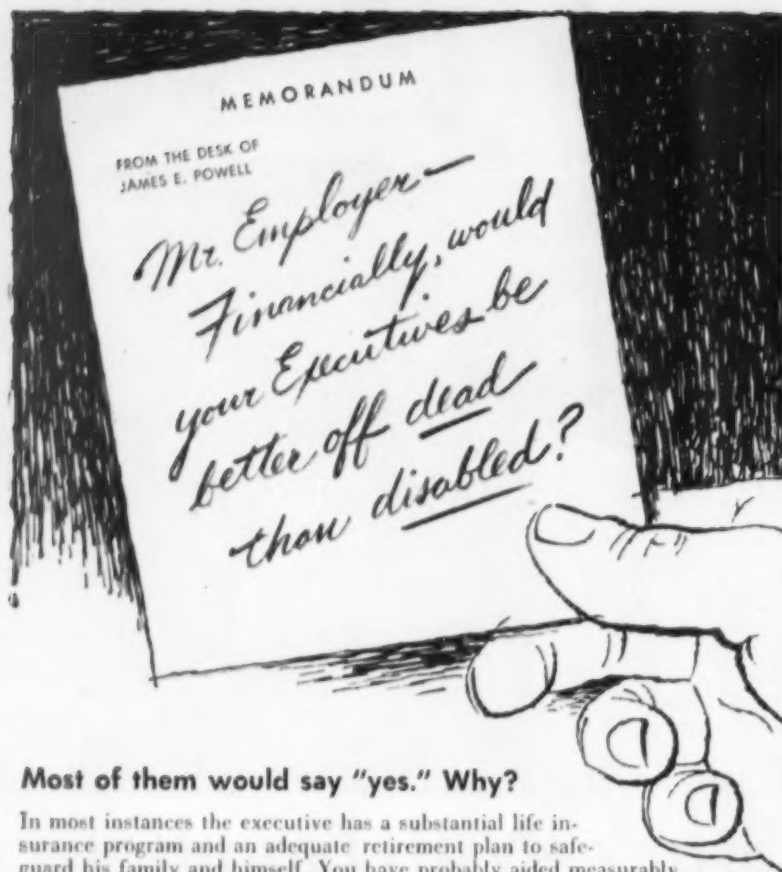
• **Nelson's Folly**—So the Nelsons plunked down their savings to invest in

100 gumball and tab gum machines (price: \$5,200 plus \$156 tax). The Multivend Corp., James Nelson, president, Mary-Armour Nelson, chairman of the board, was born. And the comedy of errors got off the ground.

Nelson soon discovered that he had paid \$52 for machines that listed as \$17.35. Mr. Chugwater, the official of No-Name Co., from whom Nelson bought the machines and route, proved something of a jovial fraud. The Nelsons realized they had been had—but their money was spent, the machines at long last were in place, and they still had hopes of "up to \$100 weekly" for eight hours' work. So they hung on grimly.

• **Some Shattered Illusions**—Jim Nelson found out a lot of things fast. He learned how vital a good location is, and how hard to find. When the machines are a huge success, the man on whose property they are installed may go crazy trying to meet youngsters' demands for pennies—and he may throw the machines out. Places that sell gum over the counter finally figure their net from such sales is greater than the 15% to 25% commission they collect from the vender.

He learned what happens to colored gumballs when the machines are left



### Most of them would say "yes." Why?

In most instances the executive has a substantial life insurance program and an adequate retirement plan to safeguard his family and himself. You have probably aided measurably in these programs. Yet he has little or no financial protection against serious disability. Under such circumstances the thinking man realizes that his program of financial security is inadequate.

What guarantee have you made him upon which he can depend, in the event he is seriously disabled? Conventional sick leave plans are short in duration and represent no solution to the problem of a long disability.

Well known corporations are successfully solving this problem with Provident's EXCLUSIVE and GUARANTEED Long Term Salary Continuance Plan. Covering groups of 15 or more, this plan is sold on a cooperative cost basis, which provides tax advantages for the employer and provides the executive a realistic income for long periods of disability.

On request we can show you that:

1. Net cost to employer, after taxes, is surprisingly low.
2. Savings to the individual, as against the conventional forms of coverage, if available, are large in terms of tax-cut dollars.
3. Physical condition is not questioned and all participating are granted full benefits without relation to previous medical history.

WRITE DIRECT OR ASK YOUR BROKER TO GET FULL INFORMATION FOR YOU ON PROVIDENT'S EXCLUSIVE LONG TERM DISABILITY PLAN.

## Provident Life and Accident Insurance Company

CHATTANOOGA, TENNESSEE

FOUNDED IN 1887

Life • Accident • Sickness • Hospital • Surgical • Medical  
INDIVIDUAL • FRANCHISE • GROUP

outside a store in the rain (the color runs, the gum gets soft, the machine clogs in a doughy mess). He discovered that chocolate-covered candies blanche or melt if the temperature isn't right. He found that ants as well as moppets go for sugar-coated candies. He and his indomitable wife spent a deadly night eliminating the ants under "Nelson's Theory of Inertia in Pismires," which, put more simply, reads, "Ants don't roll." He learned to expect a snarl when he came around to service a machine, and he learned just how stubborn a machine can be and what extraordinary hazards might turn up.

• **Fortune Sneers**—The reader follows with suspense the ups and downs of Multivend, the slow penny-ante climb. The economics ran like this. For 45¢, you got 100 pieces of gum, which brought in a gross of \$1. Of that, the location owner collected 15¢; Nelson's profit was 40¢. Nelson records progress in the monthly take in these figures: A machine at the Dome Cafe yielded \$2.78 at one month's end—up from \$2.19 the month before. At Jerry's, he collected \$4.03, a gain of 4¢ from the preceding month. Perotti's Drugstore brought in \$3.10 instead of \$2.88. And one fine location turned up \$10.50, against \$9.62.

The Nelsons practiced an almost heroic ingenuity to tease more money from the vending machines. One device was to offer charms as premiums. Plastic rings proved a great hit—but two were apt to come out at once. To avoid this, Multivend's officials stuck marbles into the centers of the rings, taped the marble in place.

• **Rewards**—The adventure proved not all grim. The Nelsons loved their house, they loved California. And Jim Nelson, in his peregrinations around the countryside, found rewards. He reports, with a sort of John Steinbeck touch, on the humble people with whom he did business: Jose Lopez y Garcia, whose Frog Hollow Delicatessen brought in few pennies but much delightful talk; Freddie Wing Duck with Moonstone, his wife, who ran a grocery store and contributed a puppy to the Nelson menage; old Mrs. Mather, who kept a doughnut shop, and treated Jim to a big slug of Old Taylor to celebrate her 45th wedding anniversary.

And the Nelsons gained their objective, up to a point. They did have time—for reading, for making mobiles, for playing with their young son. But the "up to \$100 weekly" earnings still eluded them. After months of struggle, Nelson reached his peak: In December, he grossed the grand total of \$633.38, or a net of \$249.51. "That's terrific, sweetie," his wife told him. "You've done a wonderful job." "Of course," Nelson concluded, "we can't live on \$249.51." **END**



## She's looking through someone else's eyes



Few purchases are made without thought of how they will be judged by others.

Recently, marketing men have been looking with increased interest at the opportunities shipping containers offer to make favorable impressions on millions of potential customers.

Union can help you make the most of this low-cost sales tool. Art directors who have designed or modernized boxes for instantly familiar brand names are ready to study your shipping container.

The design is only the beginning. Union follows through with board that is good looking as well as sturdy. Conscientious printers take time for thorough "make ready." Then your boxes are

run on high speed presses, using inks specially suited to corrugated board and exceptionally scuff-resistant.

A new brochure, "Visual Design of Corrugated Containers," may suggest ways in which you can get more sales support from your boxes. We will be glad to send you a copy.

**UNION BOXES**  
UNION BAG-CAMP PAPER CORPORATION



BOX PLANTS: SAVANNAH, GA., TRENTON, N. J., CHICAGO, ILL., LAKELAND, FLORIDA  
EASTERN DIVISION SALES OFFICES: 1400 E. STATE ST., TRENTON 9, N. J.  
SOUTHERN DIVISION SALES OFFICES: P. O. BOX 570, SAVANNAH, GA.  
WESTERN DIVISION SALES OFFICES: 4545 WEST PALMER, CHICAGO 39, ILL.  
EXECUTIVE OFFICES: 232 BROADWAY, NEW YORK 7, NEW YORK

# In Marketing

. . .

## FTC Unloads Charges of Monopoly Against Three Big Dairy Companies

Concentration in the dairy products industry is the target of a full-scale attack launched last week by the Federal Trade Commission with charges that three of the largest U. S. milk processing firms—National Dairy Products Corp., New York; the Borden Co., New York; and Beatrice Foods Co., Chicago—are guilty of monopoly violations through acquisition of some 250 other companies in the last five years.

Last January, the commission filed similar charges against Foremost Dairies, Inc., Jacksonville, Fla. (BW—Jan. 28 '56, p126).

FTC claimed that since 1951, National Dairy has taken over 40 companies, Borden 80, and Beatrice 131. According to the commission, these acquisitions were accompanied by substantial sales increases and were part of a "constant and systematic elimination of actual and potential competition."

All three dairy concerns deny that they have violated the Clayton and FTC Acts, under which the charges were brought. Hearings have been set for December.

In a fourth monopoly case, FTC alleged last week that the Vendo Co., Kansas City, Mo., acted illegally by taking over a major competitor, Vendorlator Manufacturing Co., Fresno, Calif. Vendo is already the country's largest maker of soft drink vending machines, says the FTC, and acquiring Vendorlator could give it more than half of all sales of the devices, sold by only about 16 industry members.

Vendo contends that the merger does not involve any monopoly.

. . .

## Americans a Little Less Fascinated By Television Programs This Year

The average American now spends slightly more than an 11-hour chunk of his weekday evenings fixed before the family television set—down from the peak of viewing time reached in 1955.

This was one conclusion drawn from the ninth annual Videotown survey, released this week by Cunningham & Walsh, Inc., New York advertising agency, which has been issuing the report yearly since 1948 on the basis of TV set usage studies among the 40,000 people of New Brunswick, N. J.

Gerald Tasker, C&W vice-president and director of research, predicted that the present level of TV viewing will continue until some major programing change occurs.

The decrease since 1955 was general enough to include all age and sex groups. But people whose homes have boasted TV sets the longest time still tend to put in longer hours in front of the screen than more recent owners.

Attendance at movies reversed a two-year upward

trend with a drop to levels of early TV days—although later months may bring a recovery over these findings, dating from spring, when the survey was taken.

Magazine reading declined, too, despite an increase in male followers of this pursuit. Publishers can blame the housewives.

More leisure time went into such group activities as entertaining friends, social calls, club meetings, and sports events. Newspaper reading, never much affected by TV, continued high.

Radio listening has recovered gradually during afternoon and evening hours, where TV inflicted its most telling punches. Morning radio, which TV has not seriously threatened, remained popular.

With a TV set saturation this year of 91%, sales continued a downhill trend. Buyers are almost all setting up new households or replacing an older model. Although homes with two sets slowly increase, there still isn't enough demand for a second receiver to constitute a market in itself.

Only 25% of the Videotown audience—twice the figure last year—had viewed a color program. Reaction was mixed. But about half of all TV set owners expressed willingness to own a color model, if the price was right—between \$300 and \$400.

. . .

## Court Rejects Schenley Plea on Taxing Of Whiskey in Bond for Eight Years

Schenley Industries lost the first round of the court phase in its battle against the federal \$10.50-per-gal. levy on whiskey held in bond for eight years. A special three-judge court in Pittsburgh held that it could give Schenley no relief because of a clause in the Internal Revenue Code. This clause states, "No suit for the purpose of restraining the assessment or collection of any tax shall be maintained in any court."

The only possible exceptions, said Judge Austin Staley, would arise if the tax was in reality a penalty or if there were "extraordinary and entirely exceptional circumstances" present. The judge found neither exception applied in this case.

The Schenley subsidiaries involved will appeal the case to the Supreme Court. Meanwhile, Schenley points out that the court did not rule on the merits of Schenley's contention that the levy is unconstitutional. A company spokesman says the court found against Schenley mostly on procedural grounds; it held that the correct route for the distiller was to pay the tax and sue for a refund.

Schenley has in fact already done this (BW—Nov. 5 '55, p137). Following the filing of the tax refund claim, it took the other case to court in the hope of getting faster action, the spokesman says.

Both in filing its tax refund claims and in taking the case to court, the company argued that the tax was not a proper excise tax at all but a direct property tax, and so unconstitutional. Under the so-called "force out" regulation, distillers must remove bonded spirits from bonded warehouses after eight years and pay the \$10.50 levy whether they have a market for the product or not. But in the Pittsburgh case, the judges maintained that the distiller's losses were not due to a defect in the "force out" provision but to its own misjudging of the market.



**If you have a say in the way a product is packaged . . .**

*Look into Styron  
plastic containers . . .  
your customers will*



## Styron deserves your attention

Take the extra protection of rigid plastic containers made of Styron\*, add their unequalled ability to spur impulse sales, and you're headed for more profits!

Whatever your product, don't hide it in old-fashioned packaging. Put it on display in its own sparkling Styron container and clinch more of those lucrative impulse sales. In a wide variety of shapes and sizes . . . crystal clear or in gem-like colors . . . imprinted or ready for your label . . . Styron plastic containers are ready to give your product a supercharge of sales energy.

Versatile Styron has turned ideas into profit for packagers of food, drugs, sundries, hardware, small tools and dozens of other high-quality products. Let Dow Technical Service help put a product-tailored Styron formulation to work for you. An idea-packed, 48-page catalog of Styron packages is yours for the asking. THE DOW CHEMICAL COMPANY, Midland, Michigan.

\*Styron is a registered trademark for Dow polystyrene formulations.

**THE DOW CHEMICAL COMPANY**  
Plastics Sales Dept. 464A  
Midland, Michigan

Gentlemen: Please rush your free catalog of Styron plastic containers.

Name \_\_\_\_\_ Title \_\_\_\_\_

Firm Name \_\_\_\_\_

Business Address \_\_\_\_\_

City \_\_\_\_\_ Zone \_\_\_\_\_ State \_\_\_\_\_

*you can depend on* **DOW PLASTICS**





**SWAN RUBBER COMPANY**

"WORLD'S LARGEST MANUFACTURER OF  
GARDEN HOSE—RUBBER AND PLASTIC"



*Lightweight — easy to handle*



**"*National* Accounting Machines save us \$22,500 per year...  
return 110% of their cost annually!"**

—SWAN RUBBER COMPANY, Bucyrus, Ohio.

"National Accounting Machines save us \$22,500 a year... an annual return of 110% on our investment.

"Our volume is expanding and we expect production to increase about one third this year. This means a sound accounting system is essential. The flexibility of the National enables us to use the same machines for Payroll, Sales Analyses, Production and In-

ventory Control, Accounts Payable, and Accounts Receivable.

"The many automatic features of Nationals promote accuracy, while enabling our operators to do their work with less effort."

*Mark S. Russek*

President

In your business, too, National machines will pay for themselves with the money they save, then continue savings as annual profit. Your nearby National man will gladly show how much you can save — and why your operators will be happier.

**THE NATIONAL CASH REGISTER COMPANY, DAYTON 9, OHIO**  
989 OFFICES IN 94 COUNTRIES

***National***

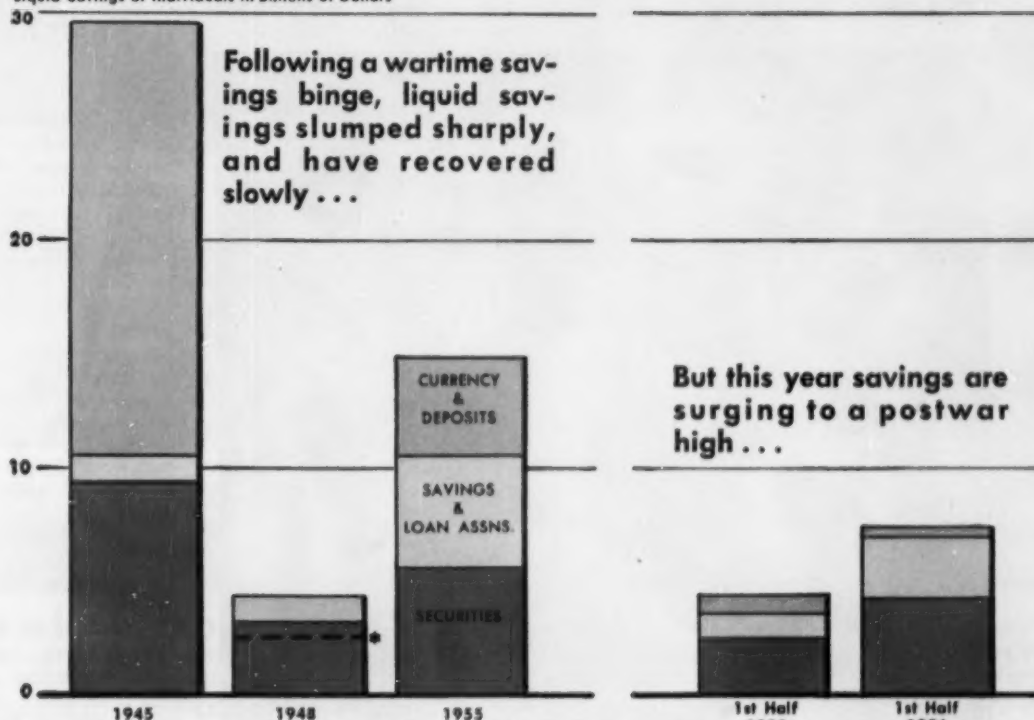
ACCOUNTING MACHINES

ADDING MACHINES • CASH REGISTERS



## How Individuals Save

Liquid Savings of Individuals in Billions of Dollars



Data: Securities &amp; Exchange Commission.

... As savers stash their dollars away for these reasons

### BY INCOME GROUPS

May and August 1956

PURPOSES OF SAVING	Under \$2,000	\$2,000 to \$4,999	\$5,000 to \$7,499	\$7,500 to \$9,999	\$10,000 and over	ALL
Against emergencies only	29%	26%	23%	20%	17%	25%
Against emergencies and for a specific goal	13	19	23	24	23	20
For a specific goal only	40	46	48	48	47	46
To bequeath money	2	2	2	2	5	2
To earn income from savings	1	1	*	1	3	1
No reason for saving	6	2	1	2	1	2
Don't know, not ascertained	9	4	3	3	4	4
<b>TOTAL</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Data: Survey Research Center, Univ. of Michigan.

## The Psychology of the Squirrel

What gives and doesn't give with savings was a recurrent theme of the meetings of the American Bankers Assn. at Los Angeles this week. Many bankers charged that individuals aren't saving enough; the ABA as a whole urged "sound principles of savings and thrift as an offset to inflationary tend-

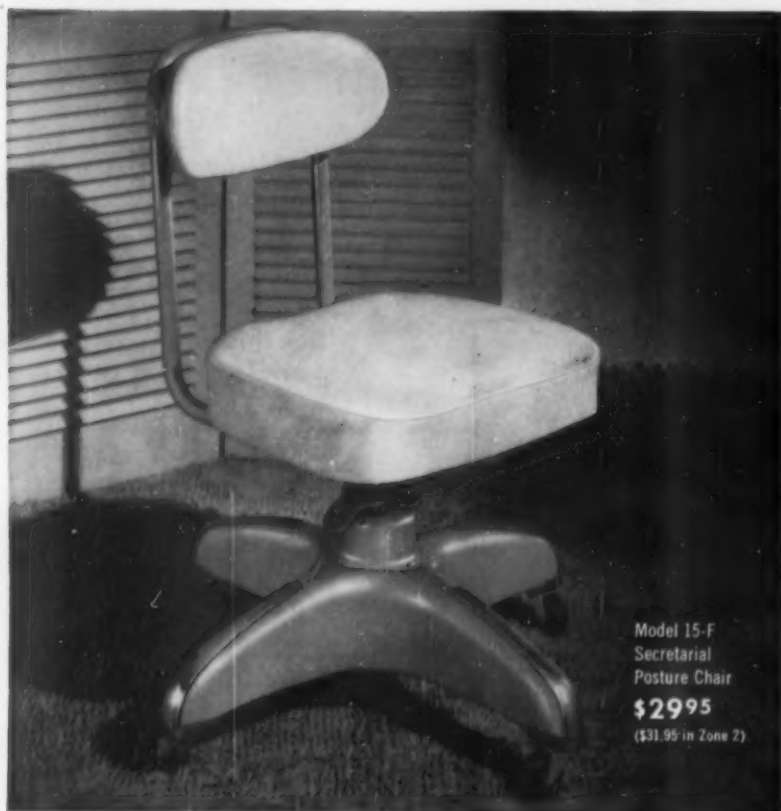
encies, and to meet investment needs that originate from savings growth."

Economists and statisticians have a lush variety of definitions and measures for "saving." One basic measure is liquid savings—currency, bank deposits, securities, savings and loan association shares—and these seemed to

be pressing to a postwar high, up 49% from a year ago compared with a modest 8% rise in personal income. Of course, the figures are far short of the staggering wartime totals. But the half-year figures show the trend. In the first six months a year ago, \$4.4-billion was squirreled in liquid savings; this

# "Office fashioned"

TO LOOK BETTER, FEEL BETTER, WEAR BETTER!



Model 15-F  
Secretarial  
Posture Chair  
**\$2995**  
(\$31.95 in Zone 2)

## COSCO®

You'll raise her output, and her morale, with this smart, adjustable chair by Cosco! All Cosco chairs are "Office fashioned"—designed by seating engineers and mass-produced by skilled craftsmen, to look better, feel better and wear better than other chairs costing twice as much. Your Cosco dealer is ready to prove this, with a free ten-day trial. Call now!

Find your COSCO Office Furniture dealer in yellow pages of phone book or attach coupon to your letterhead

HAMILTON MANUFACTURING CORPORATION, Dept. BW-104, Columbus, Indiana

☐ Without obligation, I would like a COSCO Secretarial Chair on free 10-day trial.

☐ I also want free trial on Executive Chair ☐ Conference Chair

☐ General Chair ☐ Full information on COSCO Business Furniture

Firm \_\_\_\_\_

By \_\_\_\_\_

Address \_\_\_\_\_

Also available in Canada, Alaska and Hawaii through authorized COSCO dealers.

### SECRETARIAL CHAIR

Model 18-TA  
Executive  
Posture Chair  
**\$49.95**  
(\$52.45 in Zone 2)



Model 23-L  
General Chair  
**\$15.95**  
(\$17.95 in Zone 2)



COSCO Business Furniture offers comparable values in chairs, settees, sofas, and occasional tables.

(Zone 2—Texas and 11 Western States)  
copyright, 1956

"... in any given year, more people announce their intention to save than actually do . . ."

STORY starts on p. 65

year, \$7.3-billion went into the sock.

The second half is usually the heavy one for savings, and if this year's period can match the \$10.5-billion of second-half 1955, a postwar record is in the bag.

• **The Whys**—While these figures have been drawing the attention of bankers, a different approach—the whys of savings—has been studied by George Katona, program director of the Survey Research Center at the University of Michigan. Katona, who has pioneered work on psychological attitudes in economics, has just completed an analysis of the public's attitude towards savings and installment buying, "how American consumers have felt about savings and borrowing in 1955 and 1956 and how their motives, attitudes, and opinions have influenced their behavior."

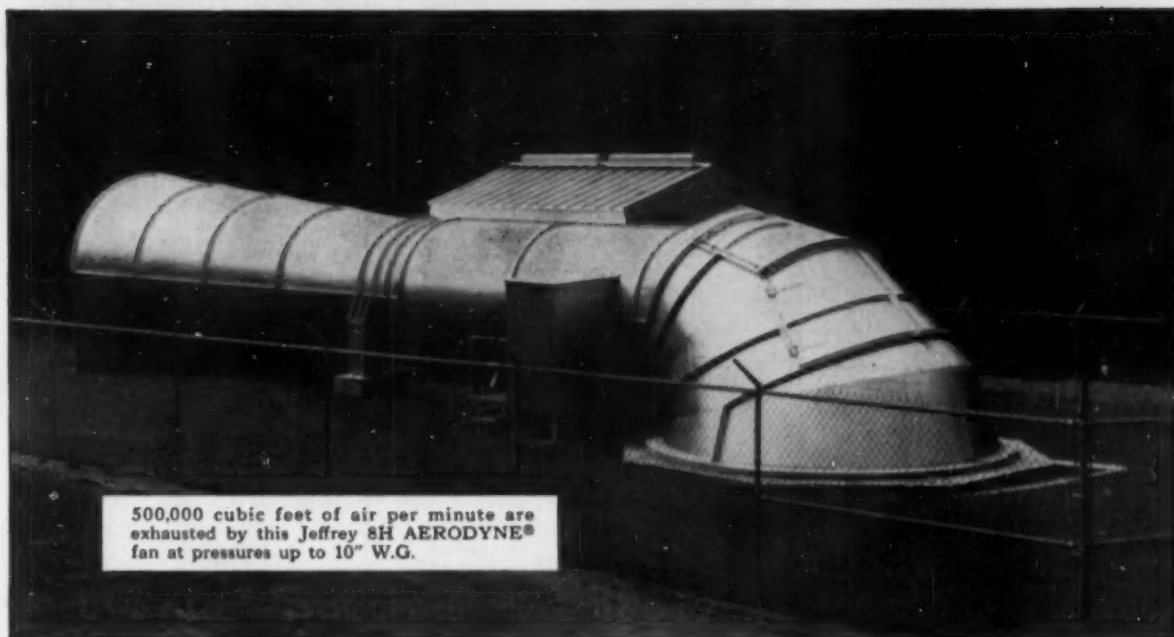
In the main, Katona's findings confirm commonly held beliefs about savings, reinforcing the accepted views that most people save to guard against emergencies, or for some specific goal such as retirement or a child's education, or for a combination of the two.

• **New Angles**—At the same time he came up with some new facets of the psychology of savings. Thus, he found that among urban consumers there is still a powerful credo that saving is good in itself, an almost religious view far older than Ben Franklin's Poor Richard. But, as in other aspects of morality, Katona finds that more people preach than practice. In any given year, more people announce their intention to save than actually do so.

By the same token, Katona finds that in any given year there are many more people who say they have savings or reserves right now than there are who claim to have had some the previous year. From all this, he concludes that people save unevenly; in some years they draw down earlier savings—dissaving—while in others they show a net gain.

Katona has also found that the yen to save is not dampened by social security and pension plans or by fears of inflation. Few consumers said they expected more than small price increases for the near term; and few people "accepted the notion of an 'inflationary age' in which the value of money steadily depreciates." People's price expectations, says Katona, "hardly

# What's NEW in Mechanization?



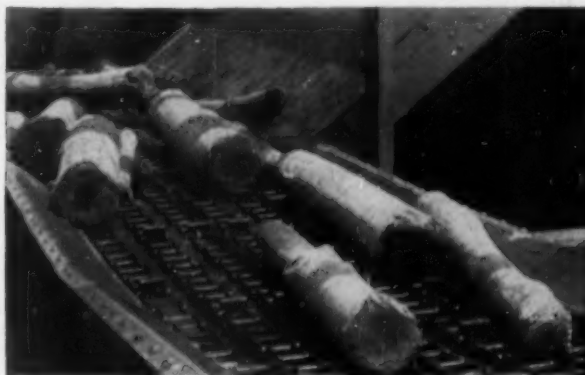
500,000 cubic feet of air per minute are exhausted by this Jeffrey 8H AERODYNE® fan at pressures up to 10" W.G.

**It takes a lot of "oomph"** to keep air coursing properly through a mine or in an industrial plant. And it takes a lot of scientific knowledge and experience to assure maximum efficiency in applying ventilating equipment. There are many chances for error in judging requirements and in planning the system.

Since 1909, Jeffrey ventilation engineers have been studying this problem and solving it for all types of installations, large and small. Today more mines in this country are ventilated by Jeffrey fans than by any other make.



**50,000 pounds of squeeze** compacts a lot of rubbish in one of these Pak-Mor trucks. Refuse loaded at the front door is immediately compressed to a fraction of its volume; discharged at the dump from the rear. The packer plate which does the squeezing and discharging is powered by dependable, high strength Jeffrey chain.



**Broad bottomed chain** was designed by Jeffrey for use where chain drags on gritty runways. Known as PW Chain, it provides 50% more wearing surface than ordinary chain—lasts longer. It is interchangeable with ordinary chain and is available through all Jeffrey distributors.

**We can help you** with modern, efficient equipment for Materials Handling • Chain Applications • Materials Reduction • Processing • Sanitation • Mining . . . and with a contract engineering-manufacturing service for your products.



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MONTREAL  
TORONTO  
NIAGARA FALLS, Ont.  
HAMILTON, Ont.

**"... a very strong minority of U.S. consumers look on installment debt as a definite evil..."**

**STORY starts on p. 65**

influenced their choice between investing money in common stock or savings accounts."

• **Unwittingly**—Katona unearthed one factor that may surprise bankers and economists: Many consumers who saved some money in the past year didn't realize it. Of those individuals who bought savings bonds for less than \$100 during the year, for instance, only 25% said they saved. This may merely indicate the widespread use of relatively painless payroll deduction savings bond plans. Even among people buying bonds worth \$100 to \$500 at maturity, only two-thirds said they had saved.

To many economists and money managers, including Treasury Secy. George M. Humphrey, repayment of installment debt is a form of saving. Katona devotes a large portion of his new survey to installment debt, but narrows the usual definition to include only purchases of automobiles and large household appliances such as washing machines, TV sets, or refrigerators.

• **Installment Debt**—If most people regard saving as a positive good, a very strong minority of U.S. consumers look on installment debt as a definite evil. Katona says that while 51% of consumers thought installment debt a good idea, a full third of them thought that it was a bad one. The hostile feelings toward installment debt were concentrated at extreme ends of the income spectrum. People with incomes under \$2,000—presumably saddle-sore from debt—and those with incomes over \$10,000—who presumably don't have to trifle with installments—took the dimmest views. In between, opinion weighed more heavily toward the approving side, with 58% of those in the \$7,500 to \$9,999 bracket feeling it was a good thing.

The amount of installment debt outstanding naturally reflects the way a consumer feels. Katona says that 40% of the individuals with no installment debt thought it was a good idea to have such debt; 43% thought it a bad idea. The higher the amount of installment debt, up to over \$1,000, the more people thought it was a good idea, the fewer thought it was bad.

• **Too Costly**—Of the one-third who regard installment debt with a jaundiced eye, few are moved by such old-fashioned notions as "I don't believe

*This advertisement is neither an offer to sell nor a solicitation of offers to buy any of these securities. The offering is made only by the Prospectus.*

**NEW ISSUE**

October 17, 1956

**311,040 Shares**  
**Bucyrus-Erie Company**  
**Common Stock**  
(\$5 Par Value)

Holders of the Company's outstanding Common Stock are being offered rights to subscribe at \$42 per share for the above shares at the rate of one share for each five shares of Common Stock held of record on October 16, 1956. Subscription Warrants will expire at 3:30 P.M., Eastern Standard Time, on October 31, 1956.

The several Underwriters have agreed, subject to certain conditions, to purchase any unsubscribed shares and, both during and following the subscription period, may offer shares of Common Stock as set forth in the Prospectus.

*Copies of the Prospectus may be obtained from any of the several underwriters, including the undersigned, only in States in which such underwriters are qualified to act as dealers in securities and in which the Prospectus may legally be distributed.*

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Saving money and time  
for the process industries...

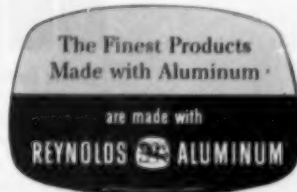
## **MORE AND MORE ALUMINUM** Goes to Work Every Day

In processing plants, where corrosion and rust producing fluids and atmospheres are always present, aluminum stands up. That's reason enough for the constantly increasing use of this "maintenance-free" metal.

But there are other good reasons for Reynolds Aluminum, too. Aluminum heat exchanger tubing possesses qualities which provide superior heat transfer—and costs less. Lightweight aluminum sheet for jacketing is easier to fabricate and install—provides reflective insulation and improved appearance. For lower cost corrosion resistant process pipe, aluminum is the ideal metal. Structural members and treadplate are lighter and simpler to install. And, of course, aluminum is non-sparking.

Many process industry applications of aluminum are easily adaptable to other fields. Reynolds has pioneered profitable uses for aluminum in all industries. To learn how Reynolds can serve you and your industry, write to Reynolds Metals Company, P. O. Box 1800-CA, Louisville 1, Kentucky.

See Reynolds new program, "Circus Boy," Sundays on NBC-TV.



By the makers of Reynolds Wrap



## 3 NEPTUNE METERS *BOOST* SYRUP PRODUCTION *200%*

**I**T TAKES less than 30 seconds of this man's time to measure out three ingredients... corn syrup, liquid sugar and water... for a big batch of Nalley's table syrup. He now produces three times as much as five men previously did with bulk sugar and barrelled corn syrup.

Tools required: Three Neptune Auto-Stop meters. Push buttons to set quantity... open the valves... and the meters shut off automatically right on the dot.

This is one example of savings Neptune makes for industry... by providing closer control over more than 150 industrial liquids. And Neptune now means more than meters... as you'll see from the list below.

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for a better measure of profit

DIVISIONS and	PRODUCTS
Neptune Meter Co., Neptune Meters, Ltd.	liquid meters
Revere Corporation of America	aircraft instruments & wire
Superior Meter Co.	gas meters
Cox & Stevens	electronic scales
Electronic Signal Co., Inc.	volt collection equipment

*"... it isn't true that people no longer believe in saving..."*

STORY starts on p. 65

in debt." The biggest raps are that it (1) costs too much and (2) is likely to result in the consumer's buying too many things, many of which he won't really need.

Most of those who favor installment credit say they need it because otherwise they couldn't buy the household durables at all; a relative few like it because it helps establish credit, or say they get better service on their car or appliance if they still owe money on it. A bare 3% mentioned that paying installments helps them to save.

A major section of Katona's analysis of savings and borrowing is his research into how consumers reacted to their appraisal of their own financial future. Katona asked his sample whether they thought that "a year from now, they will be better off financially, or worse off, or just about the same as now?"

• **Optimists**—He found that those who expected to be better off next year had saved the most—including installment debt—and spent the most, last year. There wasn't much difference, percentage-wise, between the behavior of groups that expected no change in their financial status and those who believed that they would be worse off. In previous years, these same relationships have shown up, with those who are most optimistic about their financial future being the biggest savers—and the biggest spenders.

Another key to the behavior of individuals emerges from how they felt about jobs. Those that preferred a job with chances for advancement and a "feeling of accomplishment" acted differently, in their economic behavior, from those who looked for a job with steady, high income. A larger percentage of the former category saved more, spent more cash, and made slightly more installment purchases. (But nearly twice as many individuals preferred steady income, rather than advancement.)

Katona figures, on the basis of his survey, that consumers don't regard saving as a stumbling block between themselves and the good life.

"Both improvement of living standards and accumulation of reserve funds are viewed as positive goals which people in general wish to attain. Optimism, the feeling of security and confidence, stimulate both." Katona also concludes that it isn't true that people no longer believe in saving, or that installment buying stifles the will to save. **END**



## They get 'em while they're hot

*How Emery  
helped spread  
sizzling  
sales ideas*

When in Rome . . . Romans now are doing as Americans do. Recently a modern American supermarket opened for business in the ancient city. In no time, ropes had to be put up to control crowds of delighted Italian housewives who formerly had to visit as many as 15 specialty shops daily to buy food.

Our client, Fairchild Publications, decided this would be the perfect occasion for distributing their weekly Supermarket News. Emery made pick-

up in New York on Saturday morning, and Supermarket News was circulated in Rome hot off the press on Monday—the same day it was distributed in America!

Whether your shipment—domestic or international—is emergency, one-shot, or routine, Emery is ready to deliver economically and *on time*. Learn how high-speed air transport can help you by calling your local Emery agent. He's listed in your directory.



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# Letting Bills Pay Themselves

Or at least you let your creditor draw a monthly check on your account. Insurance companies find it a handy way to collect premiums. Banks dislike it.

We are living in an age of monthly payments according to all the surveys. Now, however, a complementary trend appears to be developing—one whereby you don't have to worry about paying certain bills at all.

All you do is authorize a company with which you are doing business to draw a check on your bank account each month, provided that the company is agreeable. Next, you authorize your bank to honor these checks. Then, declares the New York Life Insurance Co., a leading proponent of the system, "you relax."

Automatic payment plans have been in successful operation for a number of years. The U.S. government urges the purchase of savings bonds that way. Some charities, country clubs, savings and loan associations, and even one railroad selling monthly commutation tickets use automatic payment plans.

• **Utility Bills**—The system is at its smoothest when the monthly bill is always for the same amount. That way checkbook arithmetic is easier. But the plan is even being used in some parts of the country to pay utility bills and others that vary from month to month.

Life insurance companies have been notably active in trying automatic payments. Between 40 and 50 of them, mostly comparatively small, have tried and liked automatic payments of premiums. Recently, two of the nation's largest have jumped into the swim—New York Life and Prudential.

Actually, Prudential experimented with the plan for several years in the Southwest before putting it on a nationwide basis last April. A spokesman for the company says the Prudential Premium Plan is too new for any evaluation, yet, but industry observers say it hasn't been an unqualified success so far.

• **Premium Cut**—The New York Life's Check-O-Matic plan differs from the Prudential's in that subscribers have their premiums reduced. This means the plan must be approved by state insurance commissions.

So far only six states plus the Territory of Hawaii have approved it. Ohio, Pennsylvania, and Texas authorized the Check-O-Matic plan last July, and Arizona, California, Hawaii, and Nevada authorized it in August. Since then the company reports it has sold 666 policies up to the end of September with a total face value of \$9,229,000. This equals 4.47% of the total number

of policies sold and 7.66% of the total new life insurance business sold in the same period in those six states and Hawaii.

In addition, the company reports there were 2,055 changes to Check-O-Matic payments in existing life insurance policies up to the end of September, representing \$24,968,000 in the face amount.

The Life Insurance Agency Management Assn. recently surveyed 31 of its member companies that are using variations of the plan. Of these, 20 reported they were actively pushing the plan while 11 said they were offering it at the present time primarily as an accommodation to policyholders. One of the 11 said it was forced into the plan by competition.

• **One Less Worry**—So far as a convenience to policyholders is concerned, most companies believe the automatic payment plans lift a burden of worry. Says New York Life: "You won't have to wonder when premiums are due; no more misplaced premium notices. New York Life and your bank cooperate to handle your payments for you."

Of course, there are benefits to the life insurance companies, too. Using pre-authorized automatic check plans, insurance companies can save on clerical work and postage. They can schedule payments instead of waiting on the whims of the policyholder. Most important, cash will funnel into the insurance company's hands much quicker than under more conventional installment plans.

Because of these savings in handling costs some insurance companies lower the monthly premiums. Under New York Life's Check-O-Matic plan a policyholder would pay, for instance, \$100 a month rather than \$103.92 if he didn't belong. This, becomes an additional selling point for the company.

• **Bankers Scowl**—While automatic payments may find favor with payor and payee there is one important group necessary to their success that isn't too happy about the whole business. That is the banking fraternity.

Faced with the growing number of draft payment plans, the American Bankers Assn. surveyed its members last April. The results of the survey were that 6,491 banks answered "No" to the question "Are you in favor of these plans generally?" and 736 answered "Yes." In other words, almost 90% disapproved of the plans.

Of the answering banks, however, 2,945 indicated they were participating in the plans. And of these, 2,142 or almost 73% said they were not in favor of these plans generally, even though they were letting depositors pay bills that way.

• **Epidemic?**—One reason behind the bankers' opposition is the fear that it will spread. One banker reported that 35 companies in his locality were currently asking their customers for permission to draw drafts on the customers' checking accounts. "How our customers are ever going to know what their balances are is beyond my comprehension," he said. Bankers also say that draft plan payments will entail more expense than conventional methods as they require special handling.

Some banks, notably the nation's biggest, Bank of America NT&SA with headquarters in San Francisco, oppose the draft plan idea unless sums withdrawn under draft payments are re-deposited in the same bank. Thus, rather than have deposits drawn down by what could be large amounts at the same time each month, the bank would simply shift draft payment funds from the paying depositors' accounts to the accounts of the insurance companies, utilities, or other companies receiving payment. That way, the funds would be kept in the bank at least a little longer than if they were channeled directly to the companies.

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## FINANCE BRIEFS

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Cash dividends for the first nine months of 1956 hit \$7.9-billion, around 13% more than the record set last year. The Commerce Dept. says automotive companies and producers of nonferrous metals showed the biggest relative year-to-year gains.

• **Latest billion-dollar company** is Chesapeake & Ohio Ry., which in August had assets of \$1,008,000,000 according to Pres. Walter J. Tuohy. The road's net railway operating income in the first nine months was \$56.1-million, the largest reported by a Class I carrier, says Tuohy, despite the fact that six other systems had larger gross revenues.

• **Bulldog in the black:** Yale University wound up its 1955-1956 fiscal year with a surplus of \$17,040, after five years of deficits, and despite a record load of \$24.8-million in operating expenses. Treasurer Charles S. Gage said that the surplus was made possible by a record \$25.5-million in gifts and bequests that came the university's way during the year. This total was the largest for any year except the \$26.5-million of 1929-1930.



# WATCH THE CLOCK

*as your independent Armco Steel distributor goes about his business of saving you time*



**2:20 p.m.:** Your distributor receives a call from a customer for 3500 pounds of Armco 18-8 Stainless. He needs delivery within 24 hours. "Can it be done?" In this case—and many others—it can be. Service like this is one big reason why you have an independent steel distributor near you.



**8:55 p.m.:** The steel you need is assembled from the ample supply your independent distributor keeps on hand. It's loaded on trucks. Your distributor knows the steel needs in his area. He's near his customers. So he's ready to give you the prompt service you want.



**9:05 a.m.:** Well before 24 hours have elapsed, the steel distributor delivers this rush order. But he also can supply a customer's entire needs. He's your nearby "super-market" in steel—buying in huge quantities so he will have the steel you need, when you need it.

**AROUND THE CLOCK** and around the calendar, your independent Armco Steel distributor stands ready to serve you. Make it a point to learn more about the services he can offer. You'll find it pays.

**ARMCO STEEL CORPORATION**

MIDDLETOWN, OHIO



SHEFFIELD STEEL DIVISION · ARMCO DRAINAGE & METAL PRODUCTS, INC. · THE ARMCO INTERNATIONAL CORPORATION

# Generals Make Good in Business

Yell "general" in any roomful of high business executives and half a dozen heads will turn. The same goes for the titles of admiral, colonel, captain. More and more, corporate brass is taking on a military tinge.

Many of these military leaders turned executive are front-page names, and their recapping as businessmen is equally familiar. On the roster of top corporate officials they are no newcomers: Gen. of the Army Douglas MacArthur, chairman of Sperry Rand Corp.; Air Force Lt. Gen. James H. Doolittle, vice-president of Shell Oil Co.; Lt. Gen. Leslie R. Groves of atom bomb fame, vice-president (public relations) for Remington Rand Div. of Sperry Rand; Gen. Lucius D. Clay, chairman of Continental Can Co.; Adm. Ben Moreell, chairman of Jones & Laughlin Steel Corp.; Gen. Walter Bedell Smith, vice-chairman of American Machine & Foundry Co.

Today's news, however, is the increasing flow of lesser-known military men—Navy admirals and captains, Army and Air Force generals and colonels—who are retiring to new careers in industry.

• **Where They Go**—You can find the greatest concentration of former officers probably in the defense-oriented industries such as aircraft and electronics. But they cluster, too, in trade

association headquarters in Washington, and you can find a sprinkling of them in almost every industry.

BUSINESS WEEK reporters talked to scores of ex-officers about their new careers in business, and they talked also to the men who hired them and who work beside them. By and large, they found that the marriage of business and military has been a happy one.

The military man makes a good executive, most businessmen say, after he has had time to adjust to a new environment. Some men take longer than others to make this adjustment. A few, in fact, never make it.

## I. Industry's Demand

Before World War II, the military and business worlds rarely met. Retiring military officers were usually at the upper age brackets; their retirement plans didn't give them the liberal options of today—half pay after 20 years of service, three-quarters pay after 30 years. Then, too, industry wasn't expanding so fast that it needed to hire retired military men.

Around 1941, though, leaders of business and the armed forces had to join hands to shape industry to meet wartime needs. And when corporations went into their postwar expansion, with new needs for executives, they turned to the hitherto untapped pool of retiring military men with whom they were now accustomed to working.

Most high-ranking officers have anywhere from 5 to 25 years remaining before they reach 65, the compulsory retirement age for most corporations. They are glad to plug gaps in industry's top and middle management ranks. The early postwar and post-Korea floods of officers into business have settled down to a steady flow. Annual retirements have leveled off, but industry's need for experienced managers has not abated.

• **What They Bring**—As managers, retired military men have many advantages. Aside from their ingrained sense of discipline, they have often had much of the same experience in decisions involving men, money, and materials as any business executive. Some have had technical experience that applies directly to industry.

Undoubtedly, a few generals and admirals have been hired simply because a company liked the idea of being identified with a famous military name.

And some have been taken on for their acquaintance with military procurement people and procedures.

• **Defense Business**—Some defense-oriented industries have enough retired officers on their payroll to run a small war. But most of the ex-officers feel like one former general who says: "I wouldn't go back to the Pentagon and solicit business for all the money in the world."

However, the former general or admiral can be useful in a policy or advisory job with a major military contractor. According to an official of a big machinery company that has several former generals on its staff: "They haven't brought in a nickel's worth of business directly, but they've made a lot of friends for us. And when it comes to defense business, they've kept our boys from falling all over themselves."

It's touchy for a former officer to get into the grubby details of military contract negotiation. Says a civilian official at the Pentagon: "It's helpful for liaison purposes to deal with such men. When we negotiate procurement, we like to have knowledgeable people with the contractors, people who talk our language. But there's another side to the coin. We must bear in mind that there are those, without designs to break the law or the canon of ethics, who are serving interests against which we

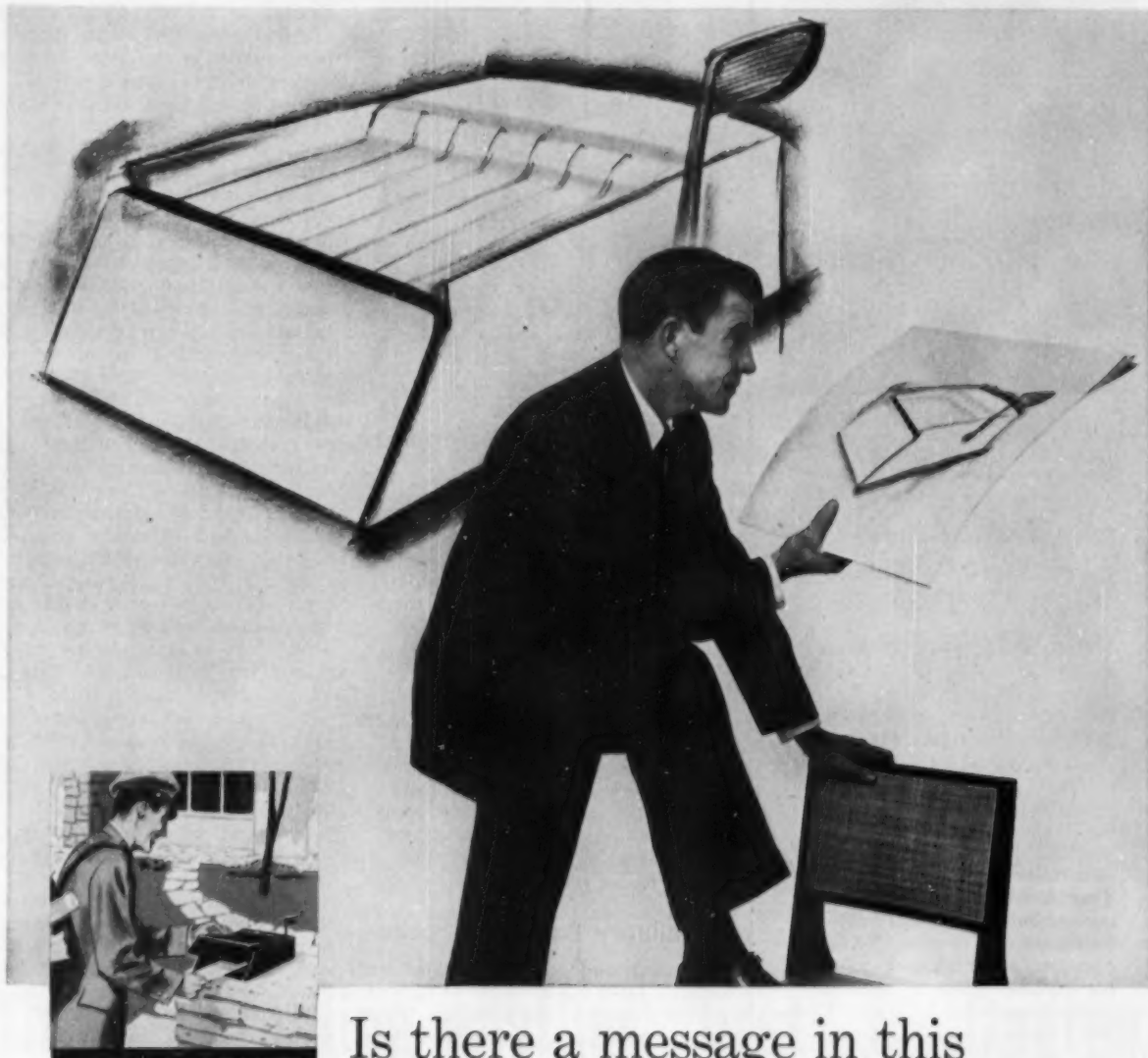


Retired military men had experience managing men, money, and materials.



Some military men never quite succeed in adjusting to the world of business.

## Monsanto Chemistry in Action



Is there a message in this  
mail-box\* for you? \*IT COULD BE MADE OF REINFORCED PLASTICS

**A MAIL-BOX** made of reinforced plastics? Why not?

Reinforced plastics are low-cost structural materials, readily and inexpensively molded to give form and substance to any design idea. This mail-box of the future, therefore would cost little to produce. It would be light in weight—yet with an ability to resist dents and damage comparable to steel! The box could be gracefully, functionally shaped (for instance, large enough to hold a magazine without folding). There would be virtually unlimited choice of molded-in colors.

And this mail-box would never rust, corrode, or mildew—even after being out for years and years in all kinds of weather.

Sports-car and truck bodies, boats, corrugated building panels, modern furniture—these are but a sampling of the growing list of actual applications for

this modern material made by bonding fibrous glass with polyester resins.

If you would like to explore the possibilities of reinforced plastics in your manufacturing, you are invited to send for a free copy of "A Sketchbook of Profitable Products." Write Monsanto Chemical Company, Plastics Division, Room 271, Springfield 2, Mass.



*Basic ingredients for producing the polyester resins in reinforced plastics are supplied by Monsanto. These include styrene monomer, phthalic anhydride, and maleic anhydride.*

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"From a management standpoint we like it because it saves time and simplifies paper work. It reduces errors. Expenses are reported while they are still fresh in the minds of our sales representatives. Also, *Traveletter* expense reports are completely compatible with our accounting methods.

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"As a credit reference, it's excellent! We've been using *Traveletters* since 1949 and I've yet to hear of anyone having trouble cashing one."

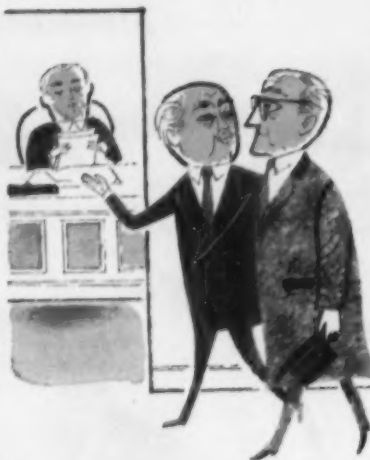
The *Traveletter* System reduces cash advances, saves accounting time, prevents lost time and lost orders, builds morale of salesmen. Used by companies employing from 1 to 1,000 travelers, including United Aircraft Corporation, American Cyanamid Co., Western Electric Co., and many others.

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Descriptive Brochure on Request

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GREENWICH 1, CONNECTICUT



Some companies like the prestige of  
showing off a famous military man.

should guard. The problem is to steer a middle course."

• **Nothing New**—Although the military man faces the profit factor for the first time when he enters the business world, he is no stranger to the discipline of budgets and costs. Between the two world wars, appropriations for the armed forces were held down, and every military man was conscious of the need to pinch pennies.

During and after World War II, officers in high places were equally aware of the problem of making a vastly expanded military budget go even farther—for government of war-torn areas as well as for an arsenal of new weapons.

## II. Military Eagerness

Admirals and generals, captains and colonels retire for a variety of reasons, not all of them related to money. Their reasons have some bearing on how well they adjust to business.

Top military leaders, particularly, seem inclined by their sense of mission to serve out their time in uniform unless there are overriding reasons to switch to business. Gen. Matthew B. Ridgway, former Army Chief of Staff who now heads the board of the Mellon Institute of Industrial Research, says: "It is difficult to drop—immediately, completely, cold turkey—problems on which you have been working specifically for a decade, and broadly for an entire career; problems of lifelong interest, of great public concern, of profound impact upon national survival."

Some men who do shift to civilian executive jobs can never get over the feeling that their business problems are petty, compared with those they used to have in military service.

Nevertheless, some officers have no choice but to retire.

• **Pressures**—The pressure is perhaps

greater on relatively young officers. Some find it hard to maintain their families on military salaries, especially when families tend to be bigger and more children go to college. Some want more stability in their family life, less moving around the world as assignments change.

Then, too, World War II and Korea pushed some young men quickly to the top, with nowhere else to go. With, if anything, a future shrinking in manpower in the services, these officers see dim personal prospects. At the same time, many have had experience in duties that parallel industrial jobs—business management, purchasing, technical work—and a liberal retirement policy gives them a way out of uniform without financial sacrifice.

• **Income**—Military brass still gets paid poorly for the burden of responsibility it carries. Base pay ranges from \$11,608 for brigadier generals and rear admirals to \$15,316 for full generals and admirals. Additional allowances may run as high as \$5,000 to \$7,000 a year.

An officer with 20 years of service can thus afford to retire at half pay to take an executive post at, say, \$25,000. That looks like big money to him. Some, of course, make less. One trade association fund-raiser is listed at \$12,000 a year. But some, like Clay at \$150,000 and Moreell at \$186,572 last year, go to the other extreme. More typical, perhaps, are Doolittle at \$90,000 and MacArthur at \$68,600.

Some officers are forced out of service under the system in which a man either goes up in rank or gets out. For instance, a brigadier general with more than 30 years of service and five years in grade must retire if he fails to get another star. But most retire voluntarily.

"If you have something to sell, sell it while it's salable," they say.

## III. Success Stories

There's no sure way to tell in advance how well a military man will do in business—personality has too much to do with it. Generally, though, he is likely to be successful if:

**He is moving from pinnacle to pinnacle**, like Clay, Moreell, and Smith. Such men suffer no loss in prestige; they know how to handle the ambassadorial duties of a top-ranking businessman; they are accustomed to working closely with civilians; they know how to handle men and money in the mass.

**He is working in his own specialty**. For example, Rear Adm. James F. Byrne's last Navy job was commanding the Naval Proving Grounds at Dahlgren, Va.; in July he joined Chrysler Corp. to help run tests for the fleet's ballistic missile systems.

Also with Chrysler is Col. G. W.





*l. to r.* Consulting Engineer J. M. Schweiger, Planning Director R. A. Flynn, City Manager H. W. Starick, Safety Director C. W. Horlacher, and R. J. Perkins, manager of American Blower's Dayton office, review plans for the Safety Building's air handling equipment.

## They're creating another "first" for Dayton

With a reputation as one of the nation's most progressive cities, Dayton, Ohio, has an impressive number of "firsts" to its credit. Dayton, for example, was among the first to employ the popular city-manager type of local government.

The conference pictured above concerns an air conditioning first for Dayton.

For, the new Safety Building—housing all police division functions and municipal courts—is the first building owned by the City of Dayton to be fully air conditioned.

American Blower is a major supplier of air handling

equipment for air conditioning and heating and ventilating in the Safety Building. Indoor temperatures are pleasantly fresh and cool—thanks to the efficient operation of American Blower air handling equipment which handles a portion of the air conditioning load.

The Dayton Safety Building's system is another example of the quality products combined with helpful on-the-spot local service you get when you specify "American Blower." American Blower Corporation, Detroit 32, Michigan. In Canada, look for Canadian Sirocco products.

Safety Building, Dayton, Ohio. Owner: City of Dayton. Associated Architects: Harry I. Schenck; Lorenz & Williams; Freeman A. Pretzinger. Consulting Engineers: Schweiger, Heapy & Associates. General Contractors: Frank Messer & Sons, Inc. Mechanical Contractors: Huffman & Wolfe Company.

# AMERICAN



# BLOWER

Division of **AMERICAN-Standard**

**Air conditioning equipment for every business**



## Precious things deserve "Precious" care

**ESPECIALLY WHEN YOU MOVE LONG-DISTANCE!**

• "Don't you worry, Janie... Mayflower will take good care of your doll things!"

Just as Janie trusts daddy, he trusts Mayflower to give *all* his household goods—ordinary items as well as treasured possessions—the same "Precious" care. And that trust is well placed. For Mayflower van men are most carefully selected and trained in their business... and they work with the most modern moving equipment. Calling Mayflower is your greatest assurance of a long-distance move that's both safe and easy. So whether you're moving your own family, or that of an employee, you've put the job in good hands when you rely on Mayflower.

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NATION-WIDE  
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*America's finest long-distance moving service*



*"Beyond all else, he's loyal, and his integrity is puncture-proof."*

Trichel, president of the Amplex Div. Prior to 1946 he headed the Army's rocket development program and had been deputy director of the Defense Dept.'s research and development, as well as an adviser on the atom bomb project.

His military job paralleled an industrial job. Adm. DeWitt C. Ramsey was formerly commander of the Pacific fleet and assistant chief of the Navy Bureau of Aeronautics; he's now president of the Aircraft Industries Assn. of America. Adm. Robert B. Carney, as former Chief of Naval Operations, was familiar with shipbuilding and Bath Iron Works Corp. products before he became Bath's chairman. Maj. Gen. Charles T. Lanham, a vice-president in charge of Penn-Texas Corp.'s Washington office, was previously chief of the Army's Information & Education Div.

Last summer, Vice Adm. Francis C. Denebrink stayed in familiar waters when he became a vice-president of Matson Navigation Co. His last Navy assignment had been commander of the Military Sea Transportation Service, with a fleet of 600 vessels at peak and a budget of up to \$600-million a year.

Business sees value, too, in the military man's general outlook, his training in teamwork and in relying on staff work. Besides, says one executive, "Beyond all else, he's loyal, and his integrity is puncture-proof."

### IV. Hard to Adjust

Sometimes the adjustment isn't easy. The company may find it isn't getting from the ex-military man what it thought it would get; the former officer may find he doesn't fit comfortably into a civilian office. Thus, a few mili-



**Remember: Get the tires that give you lowest cost-per-mile!**

The original price tag on a truck tire cannot by itself tell you what the tire actually costs. In fact, the true cost of a tire doesn't show up until you're ready to junk it.

*Final cost per mile*, and not initial price, is the one and only yardstick to use in judging how much you're getting for your tire dollar. That's why experienced truckers buy the *best* tires—not the "cheapest."

And this explains the popularity of Kelly Nylon Cord Truck Tires. Kellys are quality-built to give the lowest cost-per-mile . . . to last longer on the original tread and to take more recaps.

Kelly Tires have been proved and improved for more than 62 years. Today's Kellys are the finest tires made . . . finest in traditional Kelly workmanship, finest in quality of materials used. And today, as always, Kelly quality means true economy in the long run.

\* \* \*

If you are interested in reducing your truck operating tire costs, you will find it well worth while to get all the facts—including some remarkable service records—concerning Kelly Nylon Cord Tires. Just see your Kelly Dealer or write direct to: The Kelly-Springfield Tire Company, Cumberland, Maryland.

***It's the Bonus Mileage in Kellys  
that makes them the truckers' choice . . .***







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FOLDING CARTONS • KRAFT PAPER AND SPECIALTIES  
KRAFT BAGS AND SACKS

*Gaylord box designers have both shipper and receiver in mind...and often they can combine cost-savings for the shipper with time-savings for the receiver. For example, component parts can be shipped in exact ratio to their installation requirements, and the boxes placed right on the customer's assembly line.*

*Does this sales advantage suggest interesting possibilities to you? Call your nearby Gaylord office for any type of shipping container.*

GAYLORD CONTAINER CORPORATION • ST. LOUIS

DIVISION OF CROWN ZELLERBACH CORPORATION

tary men have washed out as business executives.

That's not surprising, says Walter Bedell Smith of AMF. "You have misfits in the armed service as well as in business," Smith says. However, he denies that it is due to the military's standardization of men. "There's no such thing as 'the military mind,'" he declares.

No one denies, however, that the former military officer finds business quite a different world, no matter how businesslike his military function may have seemed. Most get acclimated in their new world; a few don't.

• **Prestige**—One unsettling difference is that the corporation isn't so formal as the military. From his title alone, for example, there's no telling the standing and powers of a corporation vice-president. Some companies reserve the title for a handful of men close to the president; other companies hand vice-presidencies out practically wholesale.

In contrast, a military rank accurately reflects a man's status in both the organizational and social frameworks. "You always know precisely where you are, in the service," says C. B. Hansen, former Air Force colonel who's now a vice-president of Gruen Industries, Inc. He is happy with the business way, though. "There's more emphasis on creativity and imagination in business than in the military," Hansen observes.

Some men find it hard to swallow the loss of power and security that comes with rank in the armed services. For instance, a former vice-admiral finds himself among the junior vice-presidents of a big company, with many younger men outranking him in the array of v-p's. "Whenever one of those boys calls me by my first name, I flinch," he admits.

Another man confesses to being shocked when he discovered he had been left out of the invitation list for a reception given for the board chairman. He complained bitterly to a friend: "Nothing ever went on in Washington that I wasn't invited to."

"I didn't get as much money in the service," says another former Navy officer, "but I had prestige and prerequisites that made life pleasant. This is gone now."

• **Affects Social Life**—The loss of the automatic standing that goes with achievement of high rank affects the ex-officer's social life, too. When he moved to a new base as an officer, he was flooded with social invitations; when he moves to a new community as a civilian business executive, he must find himself a place in community life. "For a while," says a former colonel, "you get a terrific feeling of isolation."

Another of the little things that



# The world's first bronze building rises on Park Avenue

Architectural Bronze will add warmth and color to the Seagram Building—and will mellow gracefully through the years



**SECTION OF** a 26-foot long extruded architectural bronze I-shaped mullion. Such shapes will extend full height of building at about 4½-foot horizontal spacings.

**Massive walls are giving way** to lightweight "curtains" of glass and metals. In the new 38-story Seagram Building now rising on Park Avenue in New York City, warm, enduring bronze is used for the first time in this way—opening exciting new possibilities in building design.

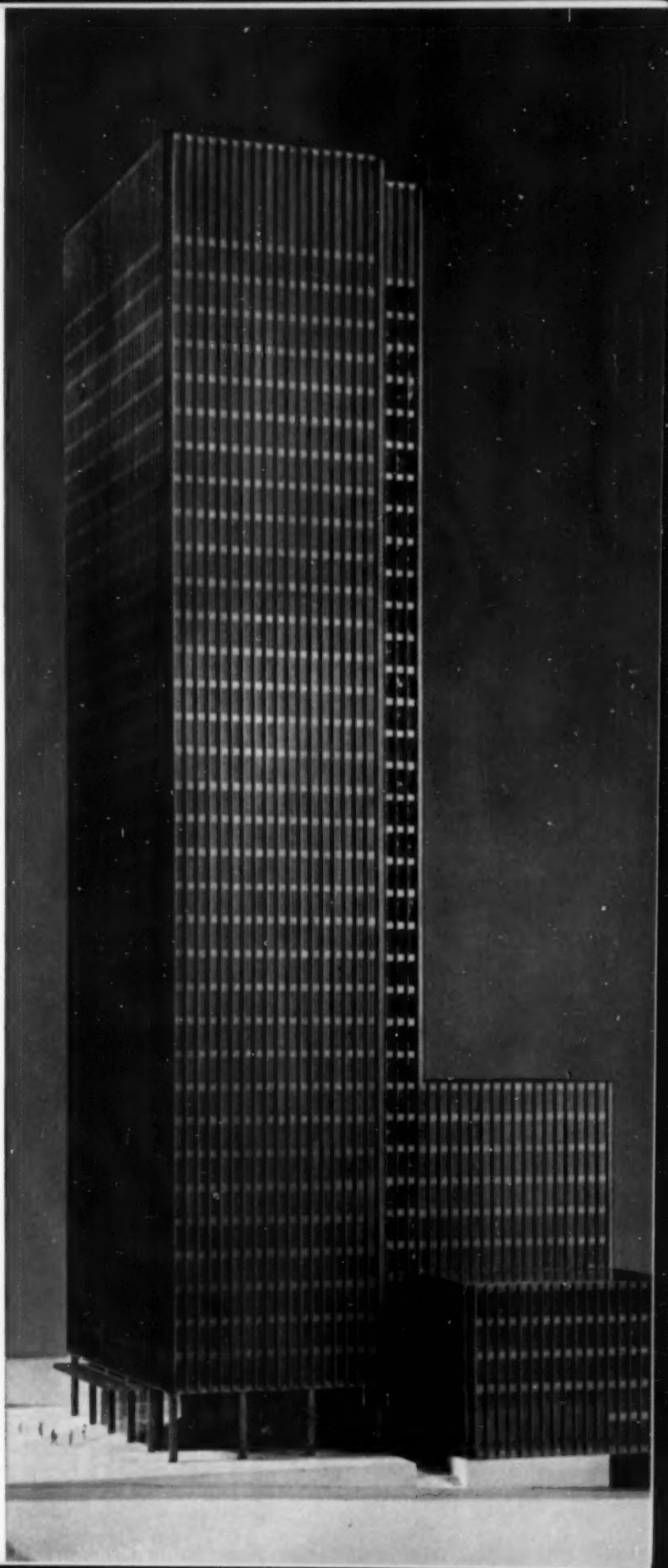
**Large extrusions** of architectural bronze will stand out from the walls, creating long, sharp shadows which will give the building clean vertical accents. With these and smaller extrusions and rolled sheet bronze spandrels, a special arrangement of parts was designed for assembling a strong, yet light, setting for the floor-to-ceiling windows.

**How Anaconda Helped.** Heretofore, architectural bronze extrusions were limited commercially to those whose cross-section would fit in a 6-inch circle. The new I-shaped mullions are much larger. Working with the architects and the architectural metals fabricator, Anaconda's American Brass Company studied the extrusion problem, found the answer. Now, as principal supplier, The American Brass Company—with specially designed dies and its big, modern extrusion equipment—is producing large quantities of the I-shaped mullion and the many other extrusions required.

**This manufacturing "first"** is typical of the way in which Anaconda and its manufacturing companies—Anaconda Wire & Cable Company and The American Brass Company—are helping industry adapt nonferrous metals to new fabricating and manufacturing problems. For help with your specific metal problems, see the *Man from Anaconda*. The Anaconda Company, 25 Broadway, New York 4, N. Y.

## ANACONDA®

Illustration at right shows scale model. Architects: Mies van der Rohe and Philip Johnson. Associate Architects: Kahn & Jacobs. General Contractor: George A. Fuller Company. Architectural Metals Fabricator: General Bronze Corp.



# What is the best



## It's GM ... America's First Choice Diesel ... and here's why:

**B**est Diesel for mining—or any other job, for that matter—is the one that does the most work at the lowest cost, above or below ground. That's why General Motors Detroit Diesel engines today handle more different mining jobs than any other Diesel.

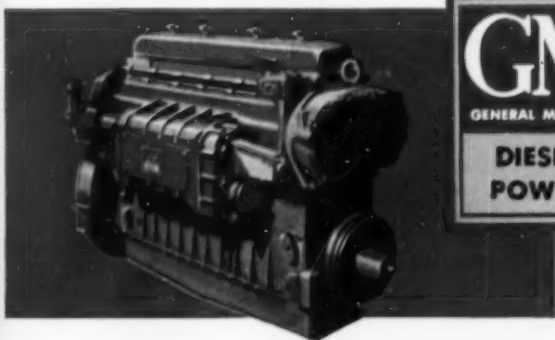
These compact, clean-running 2-cycle engines drive loaders, air compressors, draglines, locomotives, pumps, shovels and the most powerful trucks and tractors. GM Diesels are available in more than 1000 different applications of

power machinery for every job from 30 H.P. up: And with the recent addition of Turbopower engines to the line, increased horsepower with greater efficiency is now available in the same size engine. These new Turbopower Diesels develop up to 17% more power on no more fuel—or the same power with a 15% saving in fuel. Next time you order new equipment—or replace old—be sure to specify GM Diesel. It's America's **FIRST CHOICE Diesel** because it *does more work at less cost!*

# Diesel for Mining?



Equipment shown above includes: Elmco tractor-loader; LeTourneau-Westinghouse Tournatractor and Rear Dump; Lima Paymaster shovel; Gardner-Denver air compressors. Write for list of over 1000 GM Detroit Diesel power applications.



## DETROIT DIESEL

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Single Engines...30 to 300 H.P. Multiple Units...Up to 893 H.P.

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# J & L — A GREAT NAME IN STEEL

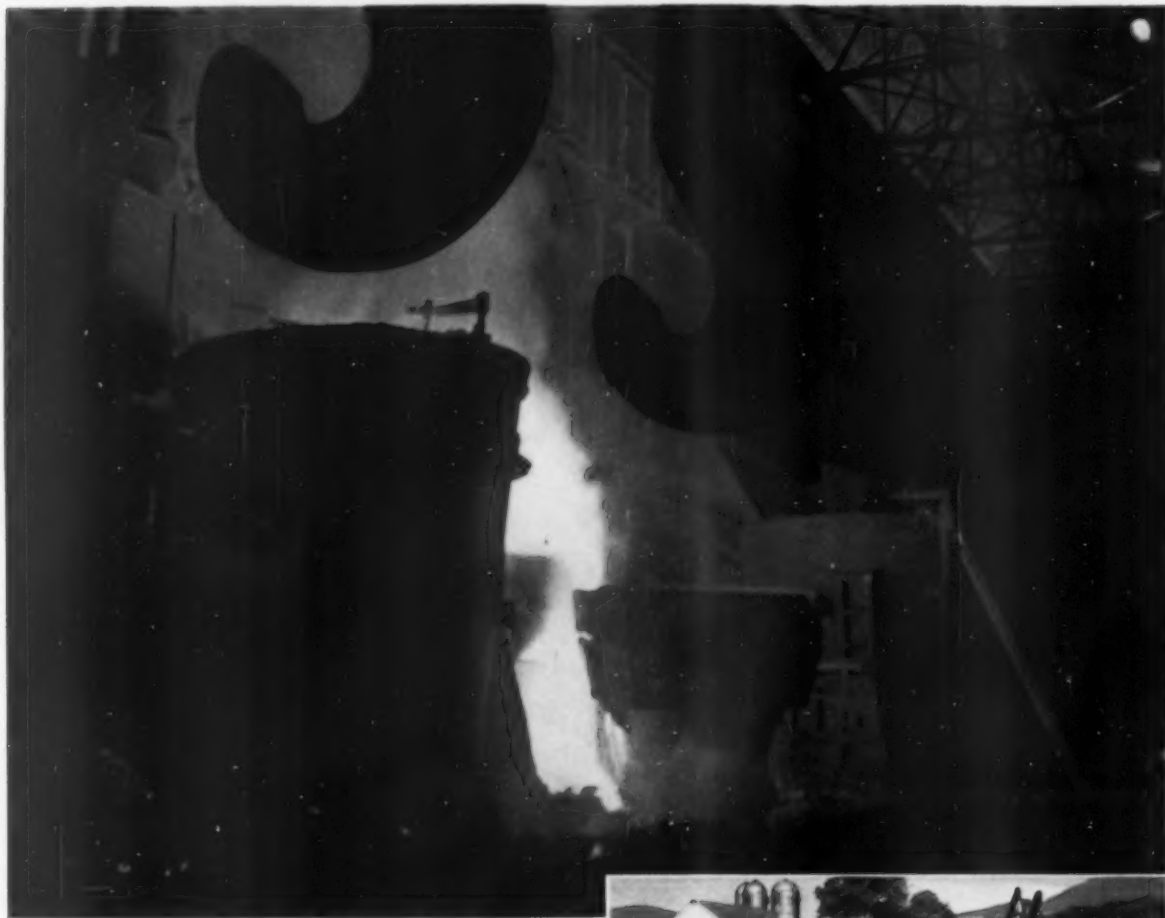


PHOTO BY MASSAR

Tons of molten steel flow into a great ladle as an open hearth furnace is tapped at J&L's Pittsburgh Works.

## More food from America's farms begins with steel

Seems that something's been happening down on the farm that has to do with one of the fundamentals in your life—food on your table.

To realize how well off you are today, take a look at farming a century ago. The efforts of the hard-working farmer produced only enough food for himself and 2 or 3 other people. Today's farmer, using machines of steel, is able to feed himself and 16 other people—roughly four families!

That you eat better and enjoy greater variety is only part of the story. Today's farmer benefits too—for not only does he step up food output, but he does it with less work in less time.



A large part of this advance in farming is due to agriculture machinery built of steel that makes it efficient and durable. The makers of tractors, combines, balers and other power machines for the farms depend on Jones & Laughlin Steel Corporation for supplies of fine quality steels made to their specifications.

Here is another example of how J&L, as a major supplier of quality steels, helps to contribute to better living for all.



**Jones & Laughlin**  
STEEL CORPORATION • PITTSBURGH

Hot and Cold Rolled Sheet and Strip • Tin Plate • Continuous Galvanized Sheets • Tubular Products • Plates, Structural, Hot Rolled Bars • Hot Extruded and Cold Drawn Bars • Wire and Wire Products • Alloy Products • Electricweld Tubing • Wire Rope • Steel Containers • Coal Chemicals



make life difficult in the days of transition is the sudden loss of the services an officer can count on. A retired general laments over having to wait a day and a half for a local plumber to do a repair job at home. "The post engineer used to hop right to it," he recalls wistfully.

• **Heartless**—Not all the suffering in the conversion of a military man to a business executive is on the side of the ex-officer. Sometimes the company suffers, too. The case of an Army major general—let's call him Gen. Jones—as head of a company in heavy industry is an extreme example.

Gen. Jones appears from a distance to be doing an excellent job. Since he has been running the company, sales and profits have risen. But listen to a former vice-president who, with half a dozen other executives, left the company within a year after the general's appointment:

"One of Jones' worst failings is his passion for snap, arbitrary decisions. He refused to heed the advice of his staff. He took the attitude that he could do no wrong. His egotism was amazing. He knew nothing about the industry and didn't feel he had to know anything about it to perform his job well.

"He formed a coterie of other former military men in the company, appointing them to good jobs instead of promoting from within. This meant many good men with 20 or more years of service with the company were left standing still.

"The general took the attitude that, as in the military, any of his personnel were dispensable. He made that statement several times during management conferences. He looked upon his employees as an army and compared jobs within the company with similar positions in the military in terms of rank.

"Jones has no sense of human values and never applies the human equation in judging performance. The cold, impersonal reign of the military has taken the heart out of the company."

## V. Recruiting Officers

Over-all, though, happy experiences outnumber unhappy ones like that of Gen. Jones. Companies are keeping an eye open for likely executive prospects among the 2,000 commissioned officers who retire from the armed services each year.

But among these retiring officers are many of lower ranks. Annual retirements of generals and admirals have leveled out at only about 100; these officers average 58 to 60 years old. Colonels and Navy captains, who average in their early 50s, retire at the rate of about 200 a year.

Companies hear about these executive recruits through mutual friends,



The "shave-off" in a Buell Cyclone dust collection system is a unique trap for the double-eddy "dust devil"... a trap which collects that extra percent of dust.

The savings made possible by such advanced engineering features in Buell systems can be important where strict anti-air-pollution codes prevail, or where industrial dusts have recovery value.

The success of Buell Dust Collection and Recovery systems in a wide variety of applications is evidenced by the fact that up to 85% of Buell installations pay for themselves in just a few years!

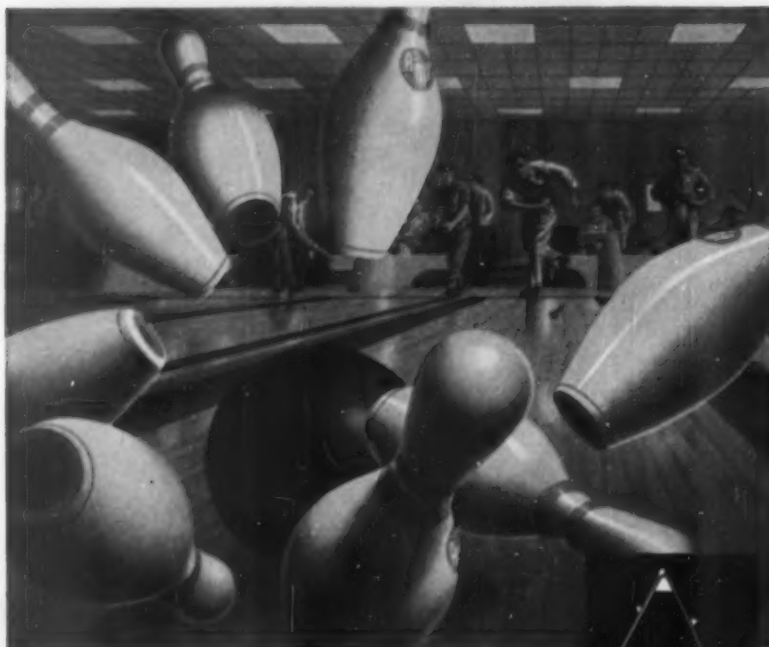
The inside story is yours for the asking... the free Buell booklet, "The Collection and Recovery of Industrial Dusts." It explains all three Buell systems. Just write to Dept. B-30, Buell Engineering Company, 70 Pine St., New York 5, N. Y.



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Experts at delivering Extra Efficiency in  
**DUST COLLECTION SYSTEMS**



## "Impossible" triangular gear helps speed up your bowling

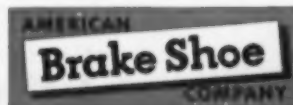
Bowling becomes even more of a pleasure when the AMF Automatic Pinspotter does the pin boy's job. This ingenious device clears away dead wood, shows pins knocked down, and sets up new pins as fast as you need 'em.

At the heart of this remarkable machine is a large triangular track. This track, with gear teeth around the outside, proved next to impossible to produce. Conventional methods either failed or proved far too costly. The answer was found in American Brake Shoe's advanced techniques of making big precision castings—strong, accurate, economical.

Brake Shoe serves machinery industries in many other ways as well. With strong steel forgings for shafts and gears. With castings for machine tool bases, power shovel parts. With hydraulic pumps and controls. With precision bronze bearings and sintered metal shapes.

Throughout industry, Brake Shoe products help cut the costs of production and operation. If your "problem parts" should cost less or last longer, it may pay you to consult the engineers of American Brake Shoe Company, 230 Park Avenue, New York 17, N. Y.

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American Manganese  
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Castings Division  
Electro-Alloys Division  
Engineered Castings Division  
Kellogg Division  
National Bearing Division  
Ramapo Ajax Division  
Southern Wheel Division  
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Manufacturers of  
component parts  
for industry.

through contacts in the line of business, or through letters of application from the job seekers. In addition, the Adjutant General's office has a career management division that helps Army men and civilian businesses to find each other. In the Navy not long ago, a group of retiring officers chipped in to print fancy brochures advertising their talents.

• **Most in Demand**—Companies generally don't seek out the combat or line officer so much as the technical or staff officer who has a specialty that parallels an industrial function. Of course, most military men who have reached the top through long service have elements of both backgrounds, but one or the other has very likely been dominant. The technical or business-type officer will be favored over the mere commander of men.

The fact that high officers tend to go into defense-related industries with which they are familiar has drawn continuing attention from Congress. Some companies, too, have gotten shy about hiring men with whom they used to do government business.

Last month, a House Armed Services subcommittee reported on an investigation of aircraft industry profits: "The presence of retired military personnel on payrolls, fresh from 'the opposite side of the desk,' creates a doubtful atmosphere. . . . Companies whose business is so closely interwoven with the military establishment ought to lean over backward so that no suggestion of favoritism, influence, or 'old school tie' could be read into their conduct."

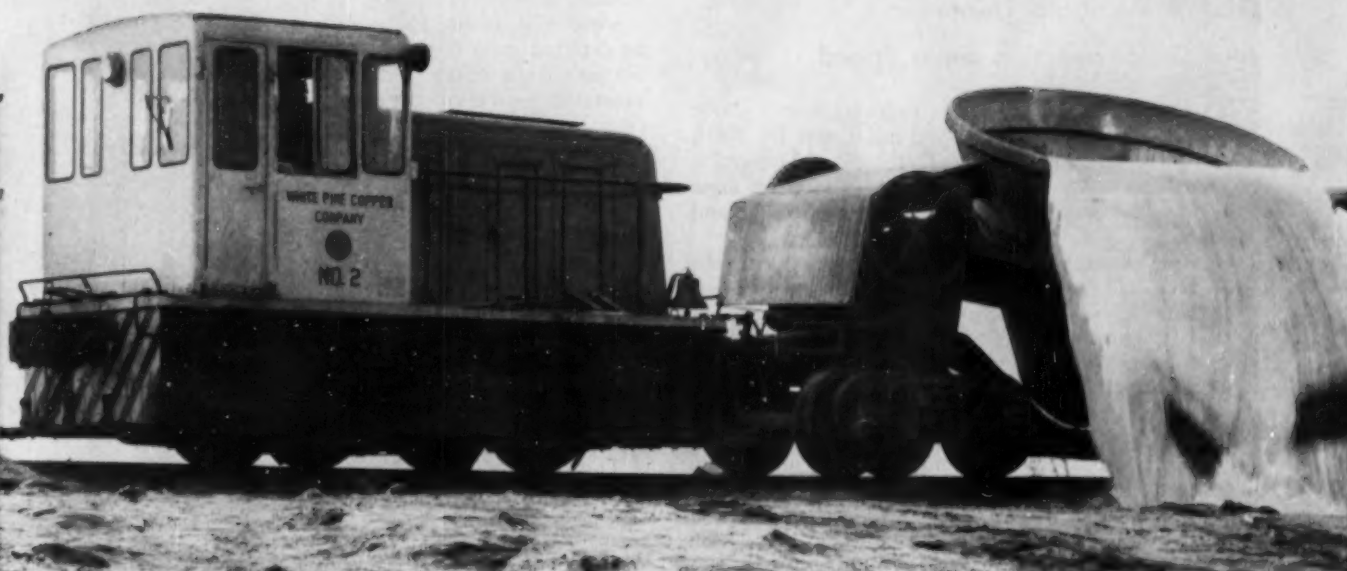
The part played by retired officers in military procurement is limited by laws and by service regulations as well as by public ethics. Generally, rules forbid a former officer to engage "directly" in sales to the Defense Dept. for at least two years after his retirement. But the services' legal departments are kept busy interpreting that word "directly."

• **Bargaining**—As with a civilian executive, the salary for a newly-hired military man depends on what the job normally pays, how badly he is needed, who else is bidding for him and how high, and how valuable he appears to be for the future.

Businessmen say that ex-officers often work for less than their civilian colleagues in similar jobs. It may be because they are naive about their value to industry or because they and their employers take into account the retirement pay as a cushion the civilians don't have.

As a result, an executive of a big steel company seeking a top engineer recently told a New York management recruiter: "Let's get an admiral or a general. Age doesn't matter much in this job, and we ought to be able to get one pretty cheap." **END**

IN NORTHWEST MICHIGAN'S ONTONAGON COUNTY...



## **25-ton G-E Locomotive Hauls 500 Tons of Molten Slag a Day at the White Pine Copper Co.**

Running a torturous temperature range from the intense heat of the furnace slag tapping launders to the outdoor slag disposal dump, a 25-ton G-E diesel-electric locomotive hauls and dumps molten slag for the White Pine Copper Co. Through summer heat and the biting north Michigan winter it is in steady, hard service 12-14 hours a day, helping process crude ore into pure copper. A real test for any locomotive!

R. C. Brenton, Smelter Superintendent, says, "We are completely satisfied with our 25-ton G-E diesel-electric. It is extremely dependable and has given us continuous reliable service."

**WHAT ARE YOUR HAULAGE REQUIREMENTS?** From the wide range of General Electric industrial locomotives—diesel-electric and straight-electric, for both surface and underground haulage—there's one fitted to your needs.

For a survey of your haulage requirements, without cost or obligation, contact your local G-E Apparatus Sales Representative. General Electric Co., Locomotive & Car Equipment Dept., Erie, Pa.

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# In Management

• • •

## Give It the Right Treatment And Grapevine Can Be a Friend

It's foolish to fight your company grapevine; you're better off to try to understand and use it, says Dr. Keith Davis, professor of management at Indiana University.

The grapevine is a natural normal activity, no more evil than the weather—though more predictable and accurate.

He says his surveys of companies show that between 90% and 95% of grapevine information is correct. What's more, he says, the grapevine normally performs a vital function: It helps employees understand their environment by feeding them more information than management can hope to do, gives them an interest in their work, allows them an emotional safety valve. For managements that understand it, the grapevine is a primary channel of upward communication, and, sometimes, a device in tactical maneuvers.

It's a difficult thing to stifle, Davis warns. In three successive surveys in one company he found that major pieces of news had been fed into the grapevine by different employees on each occasion. "Muzzling a few individuals won't control it," he says.

But what do you do about the unfounded rumors that speed through the grapevine? There's only one good way to handle them, says Davis: Have your office managers supply the facts, face-to-face with their subordinates. But even here, use caution. Give the facts directly, he says, without first mentioning the rumor, for when the rumor is repeated at this stage it's generally remembered just as well as the refutation.

• • •

## Industry Comes Out Firmly Against Pre-Merger Notification

Industry doesn't like the idea of having to notify the government of merger plans 90 days in advance of a proposed merger. That's the conclusion the Diversification Institute comes to after sampling the views of 157 companies.

A bill requiring pre-merger notification almost passed Congress last session; it most likely will be pushed next year.

Business opposition to the idea is based more on resistance to government interference than on such a law's precise effects on merger plans.

Diversification Institute found 90% of its sampling of companies are against any pre-merger notification law because:

- (1) It smacks too much of government interference in business; and
- (2) It sets a precedent for still more restrictive legislation.

Only about a dozen corporations say they oppose

such a law on the grounds that pre-merger notification would delay and prejudice delicate and confidential negotiations.

The law's requirements, they say, could result in premature publicity, impairment of customer relations, and changes in the market value of merging companies' stocks.

Some 37% of the 157 companies believe they would be deterred from completing merger plans if forced to file pre-merger notification; only about 5% say government disapproval of a merger at that stage would not cause them to change their plans.

The few companies that do approve of a notification law say it would help maintain competition.

• • •

## Survey Finds Hard Work, Long Years Brought the Boss to Where He Is

The latest portrait of the modern American businessman was painted by the American Management Assn. at a recent conference on middle and top executives.

The survey indicated there's no shortcut to the top, either in job or salary. Top managers have been working 26 years, serving as executives for 15 years, make between \$20,000 and \$30,000 a year. Middle management men have been at work for 20 years, the last 10 as executives, and they earn from \$10,000 to \$15,000 annually.

The higher a man's salary, the harder he works. Men in the middle management salary brackets put in about 11 overtime hours weekly; those making more than \$50,000 put in 18½ extra hours a week.

The AMA survey indicates liberal arts college graduates have been more successful than the specialists. Among the specialists, lawyers earn the most, followed by science and business graduates.

The 214 participants in the AMA survey included 18 presidents, 56 vice-presidents, 11 treasurers, secretaries, and other officers, and 41 division and department heads. Top management age was about 49, middle management age, 43. Average for the group: about 45.

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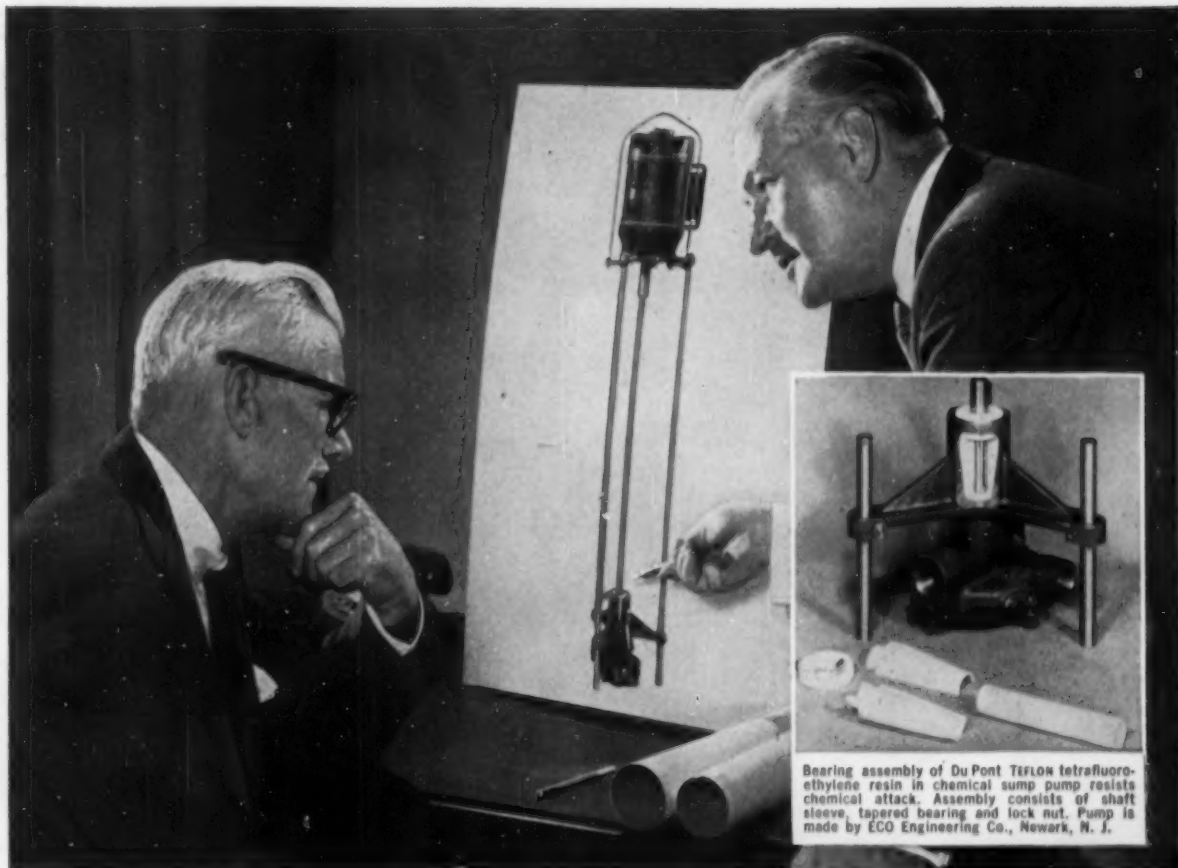
## Management Briefs

**Wage note:** 1956 graduates of Hartford's Trinity College (enrollment: about 900) are earning an average of \$4,586 a year. The liberal arts men make between \$3,600 and \$5,100; bachelor of science graduates between \$4,300 and \$5,340. About 45% of the 177-man class is employed; 33.9% are in graduate schools; 11% in armed service or about to enter.

**Job safari:** Boeing Airplane Co. is searching so thoroughly for technicians and factory help that it has sent a mobile recruiting unit out to rural areas of eastern Washington, Montana, and Idaho.

**Happy anniversary:** First National Bank in St. Louis, celebrating its 100th anniversary, presented \$50,000 each to the city's two universities.





Bearing assembly of Du Pont TEFLON tetrafluoroethylene resin in chemical sump pump resists chemical attack. Assembly consists of shaft sleeve, tapered bearing and lock nut. Pump is made by ECO Engineering Co., Newark, N. J.

## Here's how "self-lubricating" chemically inert TEFLON® solves difficult bearing problem

One of the major problems in the operation of a chemical sump pump is that of maintenance. By developing bearing parts fabricated of TEFLON tetrafluoroethylene resin, ECO Engineering Company of Newark, New Jersey, has removed the most frequent source of high maintenance costs. The pump not only withstands powerful reagents, but it operates at standard speed, without lubrication.

The bearing of TEFLON operates perfectly without any externally supplied lubrication, because of the exception-

ally low coefficient of friction of TEFLON. Contamination of material pumped, such as pharmaceuticals, is prevented because TEFLON is chemically inert, and no lubricant is needed. The presence of suspensoids or even such abrasive matter as tank scale will not diminish the effectiveness of this bearing. The ECO pump, a precision-engineering product of stainless steel and Du Pont TEFLON, handles a wide variety of corrosives.

TEFLON tetrafluoroethylene resin is inert to all chemicals and solvents nor-

mally encountered in industry. Exceptions include alkali metals under certain conditions. At elevated temperatures and pressures, halogens and certain halogenated chemicals and solvents may affect TEFLON.

Evaluate the advantages of using TEFLON in your products or processing equipment. TEFLON has a combination of mechanical, chemical and electrical properties which make it a most unusual engineering material. For more information, clip the coupon.

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nylon  
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G-E LAMPS GIVE YOU MORE FOR ALL YOUR LIGHTING DOLLARS



## General Electric fluorescent lamps "should live so long"...and they do!

IT would be most unusual for you to buy a whole carton of 24 G-E 40-watt fluorescent lamps to keep a single socket supplied. If you should, however, based on the average service life of 3 years per lamp, you wouldn't need to buy another lamp for that socket for 72 years . . . until the year 2028!

**HOW G-E LAMP UNIFORMITY AFFECTS LIFE**—Long life is important, but also important is *uniformity of life*—the "spread" between the first and last burnouts in a group of lamps. After one year of service in single shift plants an average of 99 out of 100 General Electric 40-watt fluorescents will still be burning. That's 2500 hours of service. In double shift plants, 98 of 100 will be burning after a full year! General Electric 40-watt fluorescent lamps not only live up to their published rating of 7500 hours life, but have virtually no early failures.

**GENERAL ELECTRIC LAMPS SAVE YOU MONEY.** Lack of early failures can help cut your lighting costs. For example, G-E lamp uniformity lets you set up and stick to a group relamp-

ing schedule, cutting maintenance costs. Fewer individual lamps to spot replace.

In addition to uniform *life*, General Electric 40-watt fluorescent lamps on the average are 99.9% free from physical defects that could affect performance in service! And they are uniform in light output; less than 1% of all G-E 40-watt fluorescent lamps are as much as 5% below their published light output of 2500 lumens.

For more information on how you benefit from G-E fluorescent lamps write: General Electric Co., Large Lamp Dept., BW-10, Nela Park, Cleveland 12, Ohio.

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**GENERAL  ELECTRIC**

## PRODUCTION

# Ways to Cut the Nation's Heating and Cooling Bills

Use of advanced insulation and design methods can lower costs as much as one third. Tests on 1200 sq. ft. have given these results . . .



## Insulation Toots Its Horn

There's one house insulation expert who claims that the family with a long-tailed cat has a bigger heating bill than one with a short-tailed pet. On account of the long-tail needs more open-door time to get in and out.

Not many of the details of home heating—and, increasingly, home cooling—are as esoteric as this. But it's a subject that needs a very great deal of study. What's more, it's getting increased attention from builders, makers of heating and cooling systems, and insulation manufacturers. At least one recent survey, summarized in the tabulation above, indicates that the average American householder is spending half again as much as he needs to in order to stay comfortable.

• **Evidence**—Architects and heating engineers are already well aware that a

wad of insulation is worth its weight in fuel bills, but hitherto they have had few proven statistics to convince cost-conscious customers and mortgage assessors. This is the gap that the current studies seek to fill.

The insulation makers, thus happily plugging their products, now supply material of one sort or another to nine out of every 10 houses built; in 1940, it was only one out of four. The market just for mineral wool materials runs to \$110-million a year.

The industry feels that this is nowhere near saturation. More insulation in each house, they say, will mean smaller heating bills. For the moment, the big push is in houses of the middle and upper price ranges. But the market that really fascinates the suppliers is the ever-growing number of homes with

central cooling or air conditioning; 7% already have it. If you add air conditioning to heating, you at least double the need for the best possible insulation to keep your operating costs down.

• **Piling It On**—Improving insulation, for a good many years, has mostly meant adding more of the stuff. The actual materials have changed but little, neither the insulation types such as vegetable and mineral fibers, vermiculite, and paper, nor the reflector types—aluminum-coated paper or aluminum foil. There is a trend to thicken the batts, the paper-covered hanks of fiber that fit between the studs.

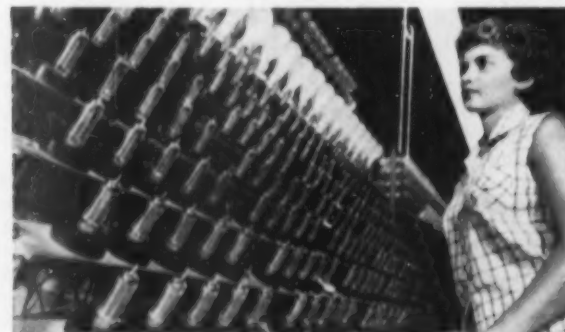
Very recently, manufacturers have been starting off in a new direction, spurred by the fact that the several hundred dollars that it costs to do a good job of insulating has been freezing



**GREENWOOD PRODUCTS COMPANY**, Graceville, Florida, operates the world's largest peanut shelling plant. In 1955, Greenwood paid farmers over \$10 million for peanut, soybean and cottonseed crops. Products include peanuts; oils; farm feeds.



**SPRINKLED ACROSS DIXIE** are modern shopping centers like the Normandale Center in Montgomery, Alabama. Twenty-nine air-conditioned stores are already operating. Blueprints provide for 17 more, an auditorium seating 600 and 3,000 parking spaces.



**ELECTRONIC TUBES** are conditioned and tested in huge racks at General Electric's 4-year-old Anniston, Alabama plant. Here, 200 men and 2,100 women earn about \$6 million a year, while manufacturing approximately 35 million tubes annually.



**ACOUSTICAL TILE**, and 14 other fiberboard building materials are produced by 906 employees working 'round the clock at Armstrong Cork's 15-acre Macon, Georgia plant. Since opening the plant eight years ago, Armstrong Cork has increased production capacity by 100%.





ATLANTA JOURNAL-CONSTITUTION PHOTO

**ATLANTA'S MUNICIPAL AIRPORT** ranks 5th in the nation in landings and takeoffs; during 1955, there was one every 2 minutes, 10 seconds. Here, last year, 1,007,953 passengers boarded airliners; air express and freight shipments in-and-out weighed over 50 million pounds. Overall operation requires the work of some 5,000 employees who earn \$24 million annually. Work will start soon on Atlanta's new \$10 million passenger terminal. Big, but not unique, Atlanta is just one of fifty-two busy Southern cities in Alabama, Georgia, Florida and Mississippi with regularly scheduled flights.

Shaded section designates area served by the four investor-owned electric power companies in The Southern Company system.



Alabama Power Company  
Birmingham, Alabama  
Georgia Power Company  
Atlanta, Georgia  
Gulf Power Company  
Pensacola, Florida  
Mississippi Power Company  
Gulfport, Mississippi

## *Down South, people earn, spend, save more than ever before!*

Business is good in Dixie. Incomes in Alabama, Georgia, Florida and Mississippi are up more than 60% since 1947 . . . wholesale sales are 9% ahead of last year . . . retail sales top 1955's . . . and bank balances in the four states are at all-time highs!

Trends point upward; and electric power is no exception. Electric generating capacity of The Southern Company system has been increased 126% since 1947; and it will be doubled again in the next nine years, according to present plans.

By any measure of progress—incomes, retail sales, bank balances or electric power sales—the records of the past and prospects for the future definitely indicate that the last half of the twentieth century belongs to the South.



**GROWING COTTON** under controlled conditions to find out how different nutrients affect plant growth is just one of over 300 projects being carried on at the API Agricultural Experiment Station, Auburn, Alabama. The findings of agricultural research teams in Southern schools contribute immeasurably to the South's farm economy.



**BLESSING THE FISHING FLEET** is an Old World custom that highlights the annual Biloxi, Mississippi Shrimp Festival. Around Biloxi, a 257-year-old city which has been under eight flags, fishing is a \$5 million-a-year industry; other income includes Keesler Air Force Base payrolls exceeding \$55 million. In the Mississippi Gulf Coast area, tourists annually spend almost \$200 million.

## Look what paper is doing now:

\* **Plastic printing plates** are making headlines these days, and paper is right in the thick of it. The "plastic"



is a special Riegel paper, impregnated with resins and molded to become a light-weight, highly accurate, durable printing plate.

\* **In offset printing**, too, many plates are made of a special Riegel paper instead of metal. Economy is a big point, because offset plates generally are used only once.

\* **Proteins for "grow-teens"**: Kellogg's "Special K"... a concentrated high-quality protein in delicious new cereal form... is protected by special Riegel waxed glassine.



Virtually all famous cereals use Riegel papers to preserve tasty crispness.

\* **Vacations are over**, but many cars still sport colorful bumper signs from famous tourist attractions. Chances are they're printed on Riegel's Weatherproof Bristol, a tough paper that sheds rain like a duck, and is stronger wet than dry.

\* **Over 600 different Riegel papers** are now made for printing, packaging and industrial uses. Write to Riegel Paper Corporation, P.O. Box 250, New York 16, N.Y.

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Riegel do for  
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**Riegel**  
TECHNICAL PAPERS  
FOR INDUSTRY

them out of the small house market.

This new search is for multi-purpose materials, ones than can at one time provide insulation, structural sheathing, and even attractive exterior surfaces. For the long pull, suppliers think these materials will do very well, thanks to marked savings in labor. Armstrong Cork's Temlok and other fiber boards are selling well now.

In this hunt for insulation materials, plastics and other synthetics have played little part, because they are still too expensive for the bulk use that the job calls for. The one exception is foamed styrene, widely used in 1-in. slabs around foundations, where it keeps insulating value even when wet with ground water. Still, it costs up to twice as much as glass fiber board.

• **Detailed Studies** — The materials quest continues on many fronts, but as of now the biggest interest lies in the cost studies being made on the best methods of applying insulation. This research got going when the National Assn. of Home Builders set up its Air-Conditioned Village in Austin, Tex. (BW—Aug. 8'53, p. 53). At the village, the first careful records have been kept of air-conditioning costs as affected by shade trees, projecting eaves, attic ventilation, and the heat load from appliances in occupied homes.

Aluminum Co. of America this month published two reports on reflective (aluminum foil) insulation based on studies it sponsored at the Bureau of Standards and at Penn State University. Alcoa thinks that its data will spread the evangel of air conditioning by reducing costs of both the

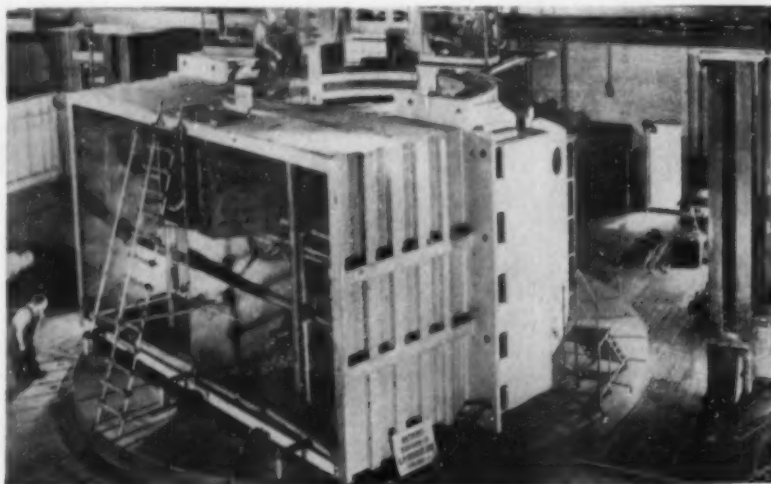
equipment needed and of operation.

Another program, launched over a year ago by Owens-Corning Fiberglas Corp., is taking the broadest look ever at the problems of both heating and cooling. Also the project has solid promotional features.

• **Target Cost**—In effect, Owens-Corning gathered all the existing data, sharpened a batch of pencils, and came up with the conclusion that it ought to be possible to heat and air-condition a 1,200-sq. ft. house for \$120 a year. Provided, of course, the house was designed to specifications laid down by Owens-Corning.

To demonstrate its conviction, open the door to a great deal of experience in the subject, and attract any wandering spotlights, Owens-Corning issued a dare to the building trade. It would, the company said, supply without charge the insulating material for a selected number of houses, provided they conformed to the rules laid down by O-C and were specially metered to record results. Originally, the plan called for 100 houses, with a wide geographical spread. But the response was so vigorous that actually 160 builders, in 54 cities, are shooting at a total of 172 houses, all meeting Owens-Corning specification on heating, and all in the 1,200-sq. ft. range. Cost range from \$10,000 to \$40,000 with the majority in the middle range.

Preliminary data on operating costs are already beginning to trickle in on the first 40 houses to be completed and occupied. Only a handful have been under test for a full year, but O-C has made projections for the 40 that in-



## Fixing Up a House for Industry's Newest Giant

A 300,000-kw. steam turbine generating unit being built for Detroit Edison Co. is straining the capacity of some of the world's largest machine tools. At Allis-Chalmers Mfg. Co. in Milwaukee

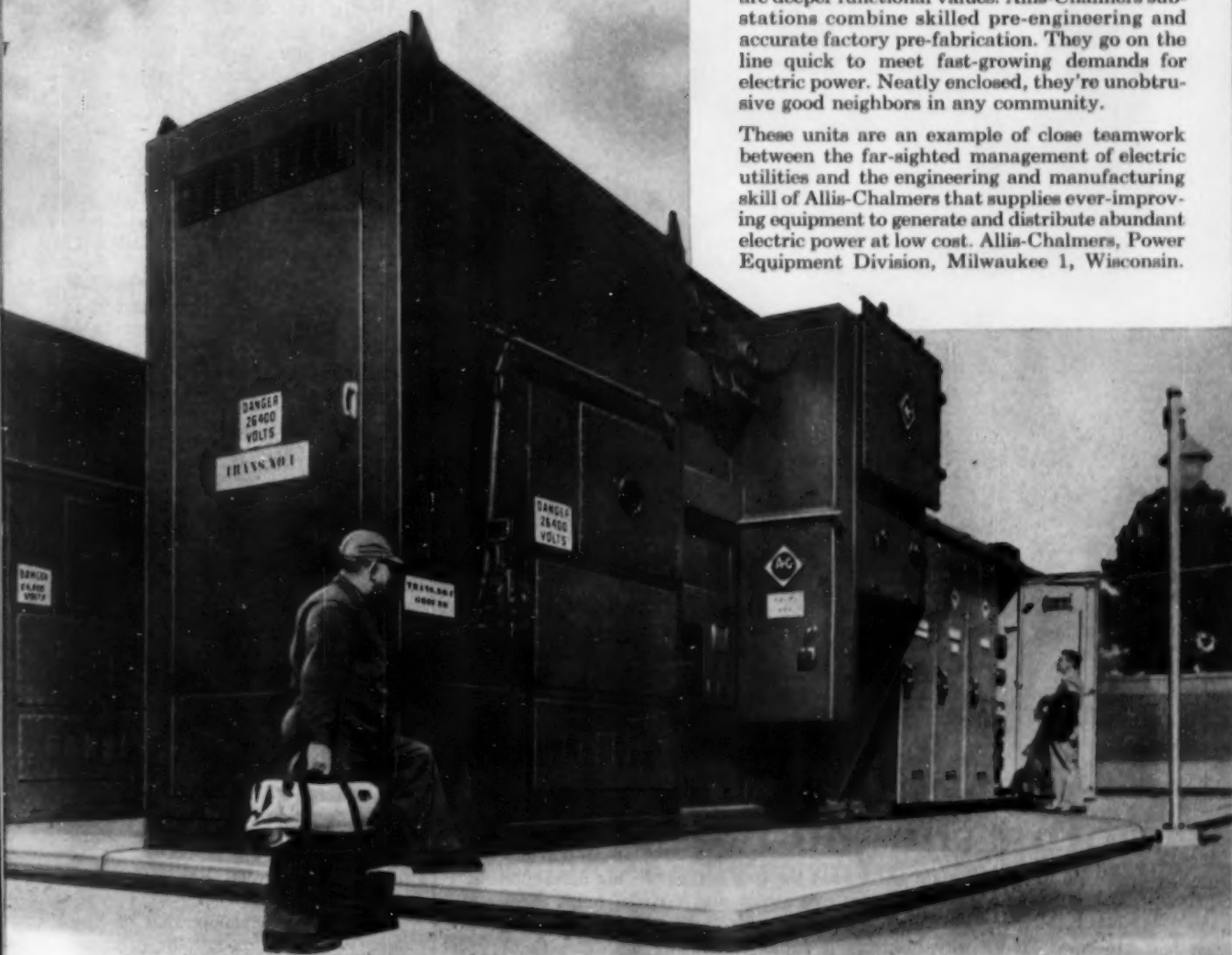
(above), a 150-ton housing spins slowly on the giant turntable of a 40-ft. milling machine as an attendant riding the cutting arm bores out a main bearing.

# To meet growing power needs...

## These trim, pre-engineered Substations go in fast

Back of the clean, compact design you see here are deeper functional values. Allis-Chalmers substations combine skilled pre-engineering and accurate factory pre-fabrication. They go on the line quick to meet fast-growing demands for electric power. Neatly enclosed, they're unobtrusive good neighbors in any community.

These units are an example of close teamwork between the far-sighted management of electric utilities and the engineering and manufacturing skill of Allis-Chalmers that supplies ever-improving equipment to generate and distribute abundant electric power at low cost. Allis-Chalmers, Power Equipment Division, Milwaukee 1, Wisconsin.



## In Industry After Industry

... the needs of each are served with Allis-Chalmers wide range of power generation and distribution equipment and processing machinery designed and manufactured for the particular requirements of that industry.

# ALLIS-CHALMERS



A-5191



Lighting by



makes the big difference



## Doing the job right

is so dependent on lighting it right. And good lighting makes the big difference in seeing and doing—relieves eye strain and fatigue, helps meet close tolerances, reduces spoilage, improves worker safety and morale. That's why industry is rapidly adopting new Day-Brite CFI (*Comfort For Industry*) fixtures with slotted reflector units which throw the light upward as well as down on the work... Before you decide on any phase of lighting, consult your Day-Brite representative. You'll find him in your classified phone directory. Or, send for special CFI industry-lighting literature.

Nation's largest manufacturer of lighting equipment  
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Day-Brite Lighting, Inc., 5474 Bulwer Ave., St. Louis 7, Mo.

dicating annual costs will run around \$139.89 for year-round heating and cooling, or \$11.66 per month. That's a modest \$1.66 a month over the company's original estimate, and O-C thinks when full-year figures for the whole 172 houses are in, the average will be within 10% of the predicted \$10 a month.

- **The Rules**—Storm windows, and a lot of factors like them, play a big part in the Owens-Corning specifications, though insulation itself gets star billing. The insulation specs split the country into three zones:

- In the North, with its swift changes of temperature, 6 in. of insulation are required for attic floor or ceiling; 3 in. in the walls; 2 in. around foundation walls or slab floors.

- Central zone rules are about the same, with more attention to cooling. For the ceiling, there's a 3-in. blanket enclosed in foil.

- In the South, foil blankets are required for the ceiling, wall insulation is still 3 in.; no perimeter insulation is required.

Owens-Corning adds a formidable list of items to the straight insulation. Placing of the house is important, especially in summer, for cooling can cost more than heating. O-C wants a minimum of eastern and western windows, unless they are shaded by trees or overhanging eaves. Deciduous trees are best, for they shed their leaves in winter when the sun's rays help with the heating job. Southern windows should be overhung for full shade in summer but not so much that it will keep out the lower-slanted winter rays.

A lot of stress is put on attic and roof ventilation, backed by Alcoa's research. Air circulation in the attic eases the summer cooling problem, adds little to the furnace's winter load.

Moisture is a heavy burden for the air conditioner, can be lessened by exhaust fans and external outlets for appliances such as driers.

In the northern areas, Owens-Corning urges double glazing or storm sash on all windows. And on large areas of glass it suggests leaving in the storm sash in summer for a 15% saving in radiated heat. Tinted glass would save still more.

The company claims that if the house is built right, and the rules are followed, the owner of the 1,200-sq.-ft. house will save an annual \$25 on heating, \$43 on cooling. But it admits that some unexpected pressures affect its calculations, apart from the relative length of the tails of pet cats.

Tyler S. Rogers, an O-C consultant, tells of one of the houses that ran way over its operating budget for heating. Investigation revealed that the owner had added a heater for a supposedly unheated garage—and had neglected to install storm windows until spring. **END**





HAROLD ANDERSON, senior partner, Anderson Elevator Company, Maumee, Ohio, reports:

## **"We built our 325 ft. long warehouse on Penta-treated poles for just about \$1.63 per square foot"**

"Our new 44,000 sq. ft. display warehouse, including metal roof and siding, concrete floor and service ramps, cost us about \$1.63 a square foot. That's about half what conventional construction would have cost. Poles serve as foundation, studding and roof support, give us plenty of clear-span area for handling materials with a lift truck."

PENTA\*-TREATED pole buildings are

permanent, practical and attractive. Permanent because Penta keeps rot and termites out of wood—makes it last years longer. Practical and attractive because Penta leaves wood clean. Low-cost pole buildings for business and industrial purposes are available almost everywhere. See your local building supply dealer, or return the coupon to us, THE DOW CHEMICAL COMPANY, Midland, Michigan.

\*PENTAchlorophenol

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☐ Send me information of low-cost PENTA-treated pole buildings for this use:

☐ Send me photographs and cost figures on 20 different types of pole buildings.

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The famous Viking "Gear-within-a-gear" design is readily adaptable to pumping thick, medium-weight or thin liquids. With more than 750 catalog models and thousands of special models, there is a Viking for most pumping needs.

If you would like to know how Vikings can pump money into your hands, see your nearest Viking Pump distributor, or write us for bulletin series 56S.



**VIKING PUMP CO.**

Cedar Falls, Iowa, U.S.A.

In Canada, it's "ROTO-KING" pumps  
SEE OUR CATALOG IN SWEETS



## Washing Off the Fallout

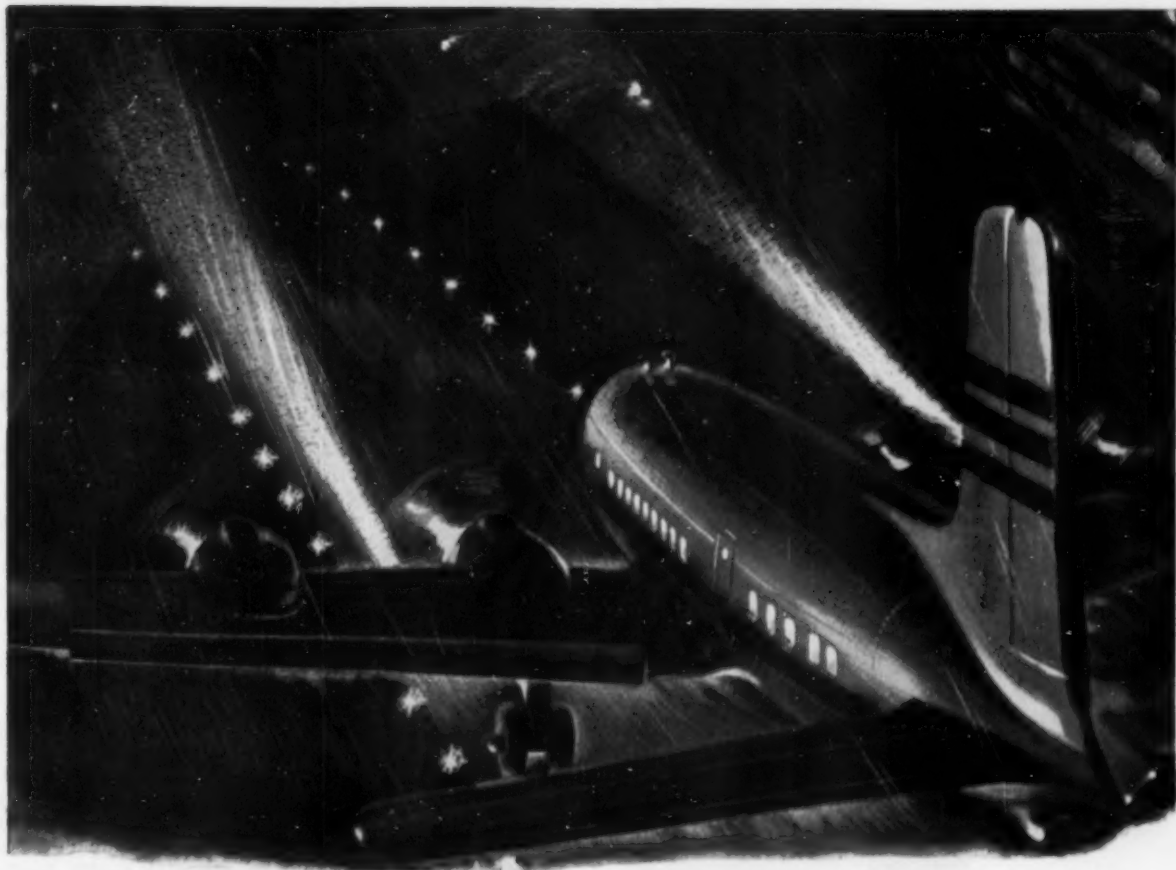


SHOWER from plastics pipe network decontaminates warship while it's in action.

When a ship of war has been exposed to radioactive fallout in a nuclear attack, it must be decontaminated, and fast, if it is to stay in action. The Navy has found that a fine-spray showerbath, continued as long as the ship is in the fallout area, is the best answer. That way, radioactive particles raining down on the vessel are washed away before they can endanger the crew.

The latest in these sea-going showers is pictured on this page. It's made of rigid vinyl piping that weighs only one-fourth as much as a steel installation. That's a major advantage, especially on small ships, where the ever-growing load of radar and fire control equipment has already created an overload problem topside.

The network of plastics pipes gives the ship a continuous washing down, fully as effective as a tropical rainstorm. And it's easy to install; eight crewmen can outfit a destroyer in one week, using



## No Place For Error...

*Pin-point landings in thick fog or stormy night are routine as gyroscope "pilots", using high speed rotors of Mallory 1000 Metal, hold airliners on course with superhuman precision.*

SOMEWHERE below is the airport, shrouded by cloud and fog. You feel the plane bank slowly . . . start down, plunging without visible aim into billowing, ominous blackness. And then, suddenly out of nowhere, the reassuring glow of runway marker lights . . . the bump of the wheels on concrete. You're down, safely.

Perhaps you wonder how your plane found the airport . . . how it landed so surely. You can find your answer in the precision navigation instruments and controls that fly a plane on predetermined course . . . help bring it in for a pin-point landing in all kinds of weather.

Mallory electronic components and a man-made powdered metal—Mallory 1000—have a lot to do with this "operation safe flying."

Mallory 1000 is used in the whirling rotor rings of the gyroscopes that provide a stable horizon essen-

tial to precise guidance by flight instruments and controls. The great weight of high density Mallory 1000 gives vital increased stability within the limited space allotted to gyro equipment.

The unique powder metallurgy techniques developed to produce Mallory 1000 are typical of Mallory research in the field of man-made metals . . . and of the work Mallory does in electronics and electrochemistry. Mallory research, engineering and precision products serve the industries which are spurring the nation's economic growth.





## Always Ready to Write

**WRITES FOR MONTHS WITHOUT REFILLING**

For months on end, this popular Esterbrook Desk Pen Set needs no attention—no special care—*no ink refill!* And your writing glides on instantly and smoothly the moment point touches paper. Try one for 30 days—if it doesn't completely measure up to expectations your dealer will gladly refund your money.



**THE PEN THAT FILLS ITSELF**  
Every time you return pen to socket, capillary action refills it with a full supply of ink.



**BASE HOLDS 40 TIMES MORE INK**  
than ordinary fountain pens. Needs no attention at all for months and months and months.



**CHOOSE THE RIGHT POINT**  
for the way you write—by number. More than 30 point styles for your selection.

DESK PEN SETS BY

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100 Production

a solvent welded pipe joint that needs no threading or adhesive.

The system is adaptable to all types of ships; 120 different installations have already been designed. The method was developed by the Grinnell Corp., of Providence, working since 1951 with the Navy's Bureau of Ships and the Radiological Lab. The special resin from which the pipe is made is a product of B. F. Goodrich Chemical Co.

## PRODUCTION BRIEFS

A semi-automatic rolling mill designed to operate in an airtight, clear plastic cocoon has been delivered to the AEC's Argonne National Lab in Lemont, Ill., by Stanat Manufacturing Co., Long Island City, N. Y. The combination 2 high/4 high rolling mill is designed to process radioactive materials—such as plutonium or uranium—for nuclear reactors. It is capable of turning out 3/1000-in. sheet, or bars, rods, or ovals, out of 4-in. square ingots.

A new Swedish oxygen steelmaking process is reported as reducing steel costs \$3 per ton. Called Stora's Kal-Do rotary oxygen process, its principal feature is the use of a 30-ton rotary oxygen converter. The rolling action of the molten bath is said to provide greater exposure to the oxygen, resulting in rapid dephosphorization and desulphurization of the metal.

The aluminum industry's switch to pumpless rectifier systems has netted General Electric a \$35-million contract to supply them to Alcoa, Reynolds, Kaiser, and Olin Mathieson. Until now, only pumped-type mercury arc rectifiers were used to convert alternating current to direct current and furnish the power to reduce aluminum oxide to molten aluminum. Eliminating the pumps in the rectifiers is expected to result in lower installation and maintenance costs.

The trend toward using rubber air springs on automobiles instead of leaf and coil springs has led Firestone Tire & Rubber to build a new plant at Noblesville, Ind. The springs—to be marketed as Firestone Airide—will be in volume production by July, 1957. Under development since the early 1930s, the Airide bellows have been in use on some trucks and buses for several years.

Tools that have to be sharpened are on the way out in the auto industry. "Throw-away" tools have already corralled 40% of the work, according to a survey done for Wesson Co., maker of carbide tools.

BUSINESS WEEK • Oct. 27, 1956





Generalaire No. 1960F,  
in Pine Frost Green.

*Generalaire®*

## in your choice of decorator colors

*46 smartly-styled models, efficiently designed and sturdily built for a business lifetime of wear*

Picture in your own office this smart new Generalaire, finished in Pine Frost Green! Or you can have it in Gray, Suede Brown, Autumn Haze, Glen Green or Manila Tan—with harmonizing Velvolum or Textolite writing top.

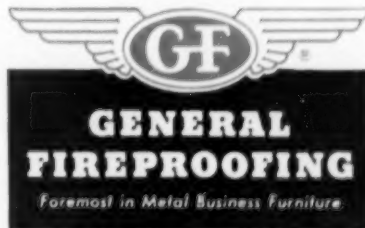
These are the decorator colors in which GF now offers modern metal desks. They bring freshness and new life into any office. They convert drab monotone clerical areas into interesting, inspiring places to work.

As for the GF Generalaire desk itself, it incorporates too many new exclusive

features to name here. But of this you may be sure: It has everything you'd expect in a much costlier desk . . . plus some efficient features you won't find even in far more expensive desks. This metal desk can't split or warp, its drawers will never stick, its solidly-welded joints can't come loose. Year after year, from the day you buy a GF Generalaire, it will be as handsome as it is today. That's real economy!

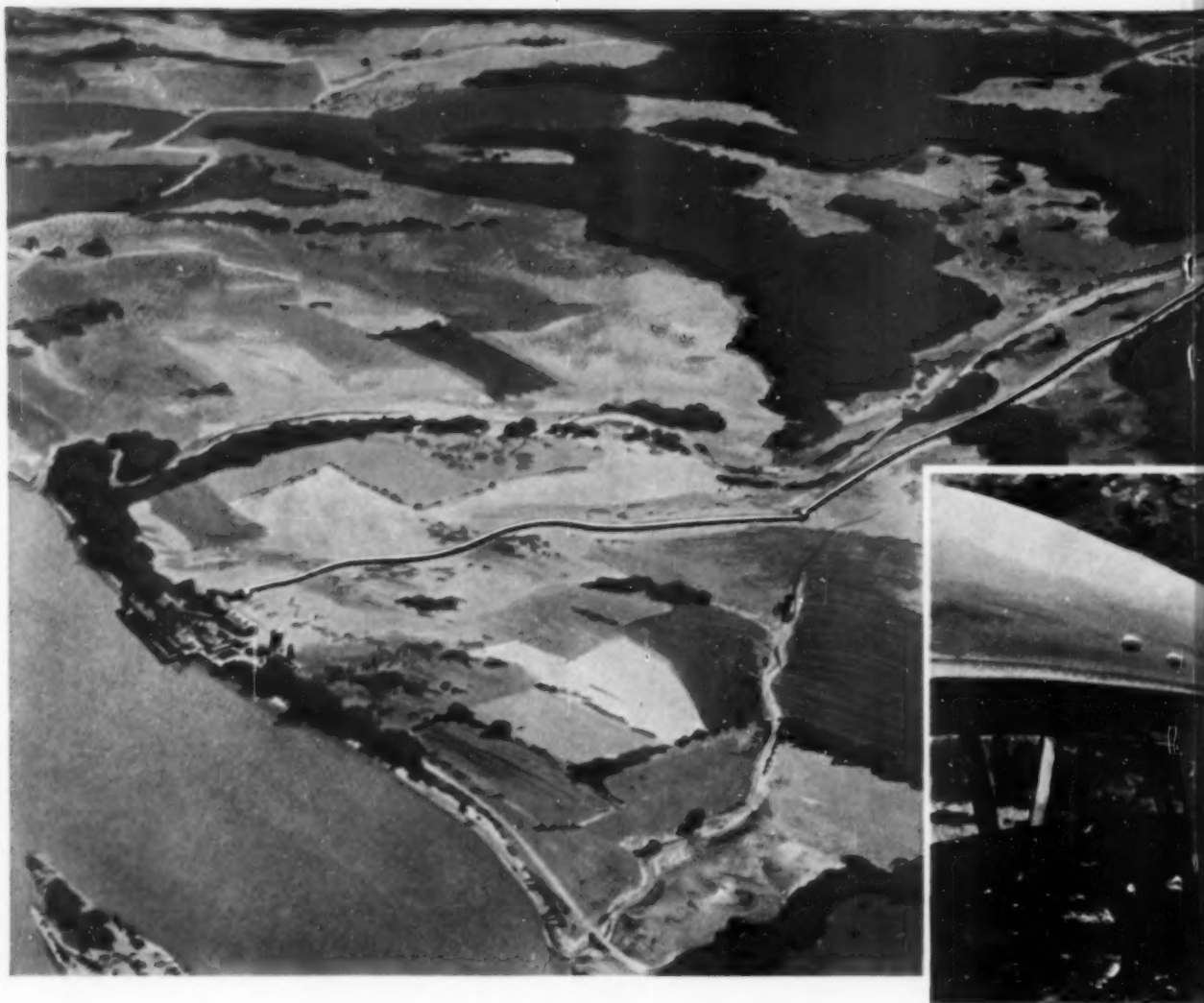
There's a GF Generalaire for every office job . . . 46 models . . . and the best way to choose is to see them for your-

self at your nearest GF Dealer or factory branch showroom. For an illustrated folder, write The General Fireproofing Company, Department B-73, Youngstown 1, Ohio.



MODE-MAKER DESKS • GOODFORM  
ALUMINUM CHAIRS • SUPER-FILER  
MECHANIZED FILING EQUIPMENT •  
GF ADJUSTABLE STEEL SHELVING

*GF metal business furniture is a good investment*



## Best way to bring the river right

Imagine yourself in an isolated area of Western Kentucky. You're chief engineer for a major coal company and you're in charge of opening a new mine. As usual, it's your problem to keep actual mining costs at a minimum. But here, you have another — even bigger — problem: To market your product successfully, you must take advantage of the low cost of barging the coal down the river, some 2½ miles of rugged country away.

Taking first things first, you make a careful survey of the property and study various methods of bringing the coal out of the mine. Eventually, with the help of facts and figures from the G.T.M. — Goodyear Technical Man — you decide upon a trackless operation as the fastest, safest and most economical. Then, with his further help, you design a "rubber railroad" — an interconnected system of conveyor belts — to haul the coal right from working face to mine opening.

But now, where do you go? Two and a half miles of heavily wooded, roller-coasting hills stand between you and the river. Wheeled transportation has two drawbacks. First, the rough terrain means a winding route and long trip times. Second, it would deprive you of excellent, natural stock pile locations.

You think over the problem, when suddenly it hits you: Why not use conveyor belts above ground too? You rough out plans for another "rubber railroad" — one to crow-flight the coal from mine opening to preparation plant to barges. Then you call again on the G.T.M. He not only confirms your thinking, but supports it to the hilt with records of success at Shasta, Grand Coulee and Bull Shoals Dams plus many other cross-country jobs.

Your company approves the idea. You and the G.T.M. work out all the details of the tricky "dipsy-doodle"



## to your door

system. And in a surprisingly short time you're standing on a hill watching your river of coal join Mother Nature's river, at the rate of 900 tons per hour, in a smooth, profitable operation. At your side is the G.T.M., whose help on any industrial rubber problem you always find available through your Goodyear Distributor or Goodyear, Industrial Products Division, Akron 16, Ohio.

**IT'S SMART TO DO BUSINESS** with your Goodyear Distributor. He can give you fast, dependable service on Hose, V-Belts, Flat Belts and many other industrial rubber and nonrubber supplies. Look for him in the Yellow Pages under "Rubber Goods" or "Rubber Products."



# GOOD YEAR

THE GREATEST NAME IN RUBBER



*Wherever you want to protect something  
... that's a place  
for A-L Stainless Steel*



**Write for your copy of  
"STAINLESS STEEL IN  
PRODUCT DESIGN"**

40 pages of useful engineering and fabricating data, including practical examples showing where, when and how stainless steel improves design, adds benefits, helps sales.

**ADDRESS DEPT. W-82**

In a textile plant, like the applications pictured above, Allegheny Ludlum Stainless Steel protects against off-colors in the dyeing and finishing department because it cleans up easily and quickly from batch to batch, leaving no traces of the previous dyes. In yarn twisters and other equipment in the weaving department, A-L Stainless provides the hard, smooth surface and high abrasion-resistance that protects against snagging and binding.

Food, beverage, dairy, drug and chemical plants use A-L Stainless Steel to protect the purity of their products; hospitals, hotels and restaurants use it to

protect appearance and sanitary standards; cars, trains and planes use it to protect strength and safety. And they all gain a host of bonus benefits from stainless steel, too: such as far less cleaning and maintenance expense, far longer life in service, and far greater economy in the long run.

*No other metal can match stainless steel in these qualities.* In addition, A-L Stainless is easy to fabricate and we produce it in every form or shape that you may require.

• Let us help you to profit by it.  
**Allegheny Ludlum Steel Corporation,  
Oliver Bldg., Pittsburgh 22, Pa.**

**For Stainless Steel in ALL Forms—call  
Allegheny Ludlum**

**Warehouse stocks carried by all Ryerson Steel plants**



NSW 8002



## NEW PRODUCTS



### Pushbutton Does All Your Dialing

Anyone who is too busy or too lazy to dial a telephone can take courage from the device pictured above. Called a Dialaphone, it can digest up to 850 selected numbers, and dial any one of them at the press of a button.

The device contains a tape-like directory of names and addresses—the ones you call most often—which can be punched either at the factory or in your office. To call a number, you

crank the machine till the name you want appears, then press a button. The machine then dials the number. It's usefulness is expected to grow with the wider spread of long distance dialing, where 10 or more digits must be used.

Dialaphone was developed by James Kilburg Corp., of San Mateo, Calif. It's expected to cost around \$160; factory punching of tapes should run around \$12 for 250 names.

### Helping Hand for the Data Processor

**Typatape assists the smaller business in hitching its older machines to assorted modern equipment.**

As small businesses turn increasingly to automatic data processing they generally trip over two snags in seeking to use their new equipment efficiently.

- It's difficult to work out a unified operation with machines turned out by several different makers.

- It's hard to translate information from such standard machines as cash registers, adding machines, and billing machines into a form that can be easily digested by the new automatic data processors.

For the second of these problems, Typatape, Inc., of New York City, has evolved a new system. The Typatape units take information from even the oldest standard machines and translate it onto regular punch cards that can be fed into various business machines or used in card records and billing. The company hopes to develop further refinements later.

Typatape has two basic units, a recorder and a converter.

The recorder is a box, only 12 in. by 6 in. by 4 in. that is fastened directly onto the cash register or adding machine. As data is rung up on the parent machine, the recorder codes it on 4-in. paper tape marked with black and white squares. The recorder works entirely by mechanical means, and so needs no electric power source. And Typatape says it believes it is the first system of its sort to use printed paper tape.

The converter reads the tapes photoelectrically and sends the information to a punch card printer. Typatape says the converter can read as fast as the punch machine can go. Later on, the company expects to be able to turn out punch and magnetic tapes, as well as punch cards.

Typatape says its system can be

adapted to almost any hand-operated office machine, but it expects the largest use in these fields:

- Accounting machines, where, as the operator posts items on ledger cards, the Typatape automatically generates a tape that can be used for inventory control, sales analysis, or accounts due.

- Cash registers, where the ringing up of retail sales automatically creates a tape containing all the data needed in accounting, with no risk of clerical error along the way.

- Adding machines, where Typatape records of the answers can be fed directly into data processing machines. And Typatape can be set to record only the required portions of the answers.

Since it needs no power source, Typatape can operate anywhere that the parent machine can go. Thus it can record the operations of a cash register used in paying off field hands, in a form that can be sent to the main office for translation.

The Typatape recorder costs \$900 installed, the converter is priced at \$5,000. But since many users of the recorders would not need a full-time converter, the company expects service facilities to be set up to do the job on a rental basis.

## NEW PRODUCTS BRIEFS

**Fold-up spare tires** that take no more room than a football are being manufactured by Gates Rubber Co., of Denver, Colo. The tire, designed with a tread life of 1,000-miles, is part of a kit that includes a tire puller—to remove the flat from the rim—and a small carbon dioxide cylinder for inflating the spare.

**Portable ultrasonic cutting systems** that can be used for machining hard and brittle materials, such as steel, glass, and ceramics, are being produced by Sheffield Corp., of Dayton 1, Ohio. The device, which is adapted from the Cavitron process used in dentistry, uses high frequency sound waves to activate cutting tools for a wide variety of operations. The oscillation of the tools is almost invisible to the human eye and harmless to resilient substances, including hands and fingers. Price: \$2,500.

**Snap-up desks** for autos and other vehicles are being manufactured by Product Development Corp. of Norwalk, Conn. The all-aluminum units have a clip board to hold papers for writing and a built-in basket for delivery slips and bills. The device is helpful for marking orders in delivery trucks, as well as for taking down messages from the two-way radios of police cars and taxicabs. Price of the units, in quantity, is \$11.75 each.



O.F.C. means Original Fine Canadian. It's the fastest-growing Canadian whisky in America today! Try it yourself. Enjoy its incomparable lightness... its elegance of flavor.

\*William A. Jensen, well-known photographer  
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SIX YEARS OLD, 86.8 PROOF.  
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Want to know more about the fastest growing state in the union? Write for *Arizona Industrial Facts*. Ask for specific information in your own field. You'll get some exciting answers about amazing Arizona.

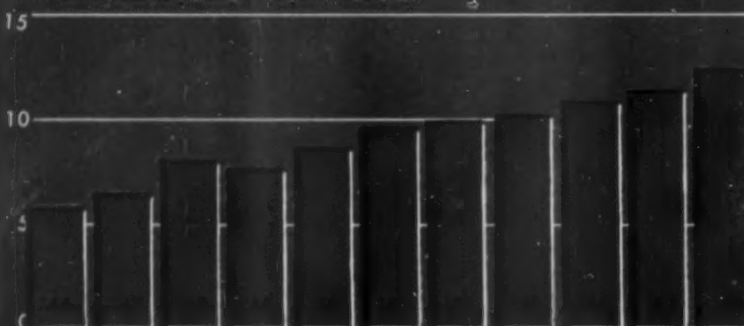
**ARIZONA**  
**Development Board**  
PHOENIX ARIZONA

## CHARTS OF THE WEEK

### Average Building Costs

1-Family Housing Starts

Thousands of Dollars (Average for April of each year)



Data: Dept. of Labor.

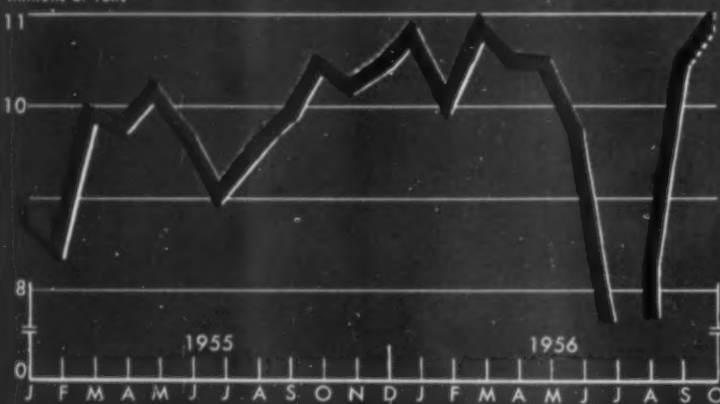
## Doubled, Then Some, in a Decade

With building costs up and larger homes in more demand, the average one-family house now represents more than twice as much money as 10 years ago. From April, 1946, to April, 1956, the average cost of such dwellings has

increased 120%; since 1950, the rise has been 45%. In the year ended April, 1956 the cost of the average new house started rose 9.1%. And despite some weakness since August building costs are still rising.

### Steel Production

Millions of Tons



Data: American Iron & Steel Institute; BUSINESS WEEK ESTIMATE.

## Up and Up Since Strike

Steel production in September bounced back to 10.4-million net tons, setting a record for that month. This compares with 8.1-million tons in Au-

gust and 9.9-million tons in September, 1955. Production, continuing to climb during October, could set a record at around 11-million tons.

continued

# Announcing— the new SYLVANIA VHO-25 Fluorescent Lamp

SYLVANIA  
100W COOL WHITE  
VHO-25  
MADE IN U.S.A.



*Sylvania's VHO lamp makes possible more light per foot from fluorescent lamps*

## Produces more than twice the light output of conventional 40 watt lamps!

### Sylvania Research conquers Heat and Pressure— two major obstacles to more light per foot!



The VHO-lamp represents an entirely new concept in lamp design—an entirely new way to get more light per foot from fluorescent lamps.

To make this achievement possible Sylvania engineers have developed and combined these vital features:

1. New "Pressure Control" Center. The specially developed, exclusive internal and construction of the VHO lamp creates "cool spots" at each end which allow mercury to condense.
2. Neon gas replaces Argon. Sylvania discovered that Neon actually gives far greater efficiency at higher wattages than the conventional Argon.
3. Use of standard T-12 bulb. The popular T-12 bulb permits maximum effective production and use of ultra-violet radiation within the tube.
4. The Patented Sylvania Rapid Start System. This development for fluorescent lamps keeps filaments warm during operation of lamp, and encourages effective electronic emission from filaments at all times.

IN APPEARANCE, the VHO-25 is a standard 4-foot T-12 lamp, yet it produces *more than double* the light output of 40-watt fluorescent lamps made until now.

Due to the substantially greater light output of the Sylvania VHO, High-Bay Industrial Fluorescent lighting becomes practical and economical. In Low Bay lighting, VHO lamps will, in many cases, prove more economical because fewer fixtures are required.

VHO lamps are also a new and practical answer to better, highly efficient street lighting . . . use a minimum of lighting units of less cumbersome size. They are also particularly suitable for other outdoor lighting applications such as store fronts, service stations, and floodlighting of outdoor industrial or commercial areas.

If you are considering plans which include lighting for new construction or modernization, the new Sylvania VHO fluorescent lamp will be of particular interest to you. For complete details consult your local Sylvania Representative, or send today for your free folder about the revolutionary Sylvania VHO Rapid Start Fluorescent Lamp. Write to:

SYLVANIA ELECTRIC PRODUCTS INC.  
Lighting Division, Dept. B, Salem, Mass.  
In Canada: Sylvania Electric Products (Canada) Ltd.  
Shell Tower Building, Montreal

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LIGHTING • RADIO • TELEVISION • ELECTRONICS • ATOMIC ENERGY



## "Floating-Hub" casters safeguard new Lycoming T53

Intricate aircraft engines like Lycoming's new T53 take a lot of babying during assembly.

Reason for such careful handling is the danger of "fretting corrosion"—a vibration resonance often caused by movement over uneven surfaces. That's why the Lycoming Division, Avco Mfg. Corp., puts its new compact, high-powered gas turbine engine on assembly stands equipped with Bassick Floating-Hub casters.

### No mere "baby carriage"

In "Floating-Hub" construction, the mobility of the hub under spring control allows the wheel to ride up or change position in the caster frame without lifting the load carried. It has an inherent ability to absorb both vertical and horizontal shocks and to snub out bouncing. Sprung mounted casters which give only a "baby carriage" type of ride can't match "Floating-Hub" performance.

### Takes on tough jobs, too

Floating-Hubs aren't used only to handle fragile loads. Their shock absorbing ability also suits them for rough service carrying heavy loads over uneven floors and ground. Bassick distributors and service representatives can help you select the right casters for your needs. THE BASSICK COMPANY, Bridgeport 2, Conn. In Canada: Belleville, Ont. 6.18

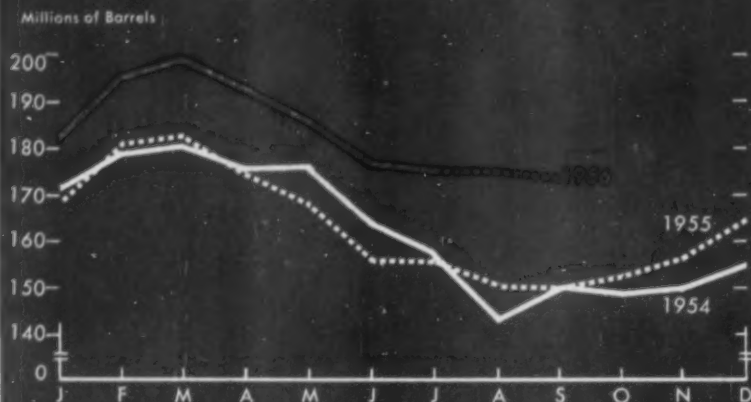


MAKING MORE KINDS OF CASTERS. MAKING CASTERS DO MORE

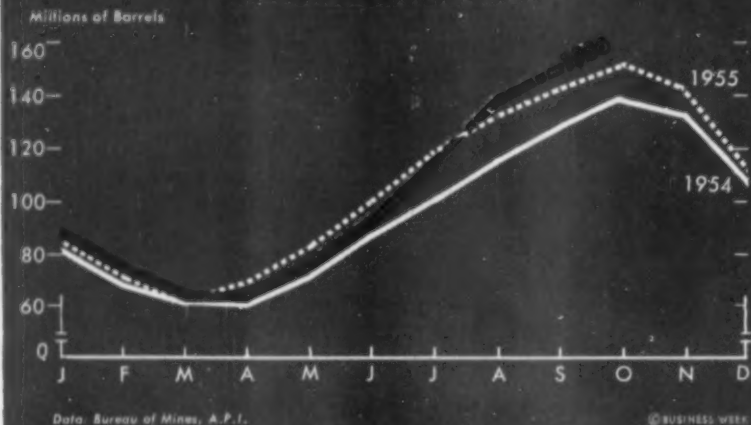
The outlook is also good for the balance of the quarter, with orders for most items expanding. Detroit has stepped up orders for hot and cold-rolled sheets

now that model changeover is nearly completed. And backlogs remain large in many items, such as structural steel, plates, and oil country goods.

## Motor Fuel Stocks



## Distillate Stocks



## Posing Problems to Refiners

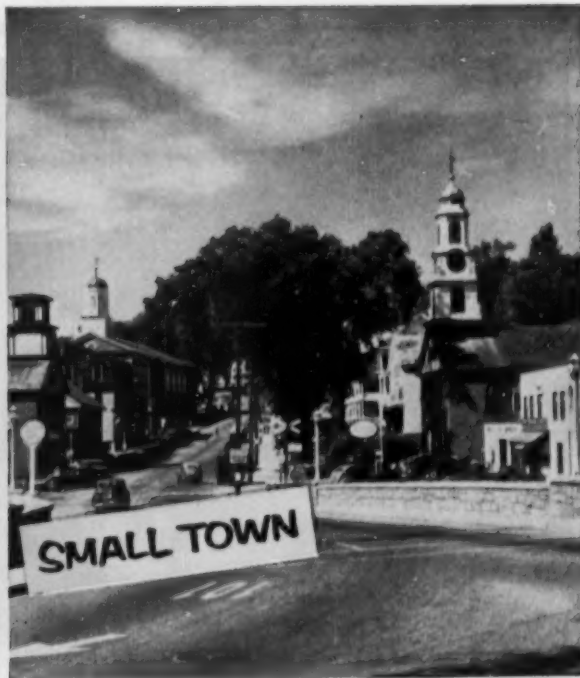
The situation pictured in the charts above could mean trouble for oil refiners this winter. Right now, gasoline inventories are too high; distillate inventories are just about sufficient. Gasoline stocks stand about 15% higher than last year, and distillate stocks have now climbed a little above year-ago levels after lagging behind 1955 levels during the five months period from March through October.

Ordinarily, the oil industry meets winter's rising demand for burning oils while storing the unneeded gasoline

turned out in the process. But to do so this year would still further unbalance gasoline supply—particularly if a colder-than-normal winter should result in larger-than-normal fuel oil needs.

Here the industry's own efficiency—in steadily increasing the proportion of gasoline it can extract from a gallon of crude oil—gets in its own way: To operate most efficiently would pump up gasoline stocks all the more rapidly; to extract more burning oils from the gallon of crude would impair profits, for gasoline still is the "money product."





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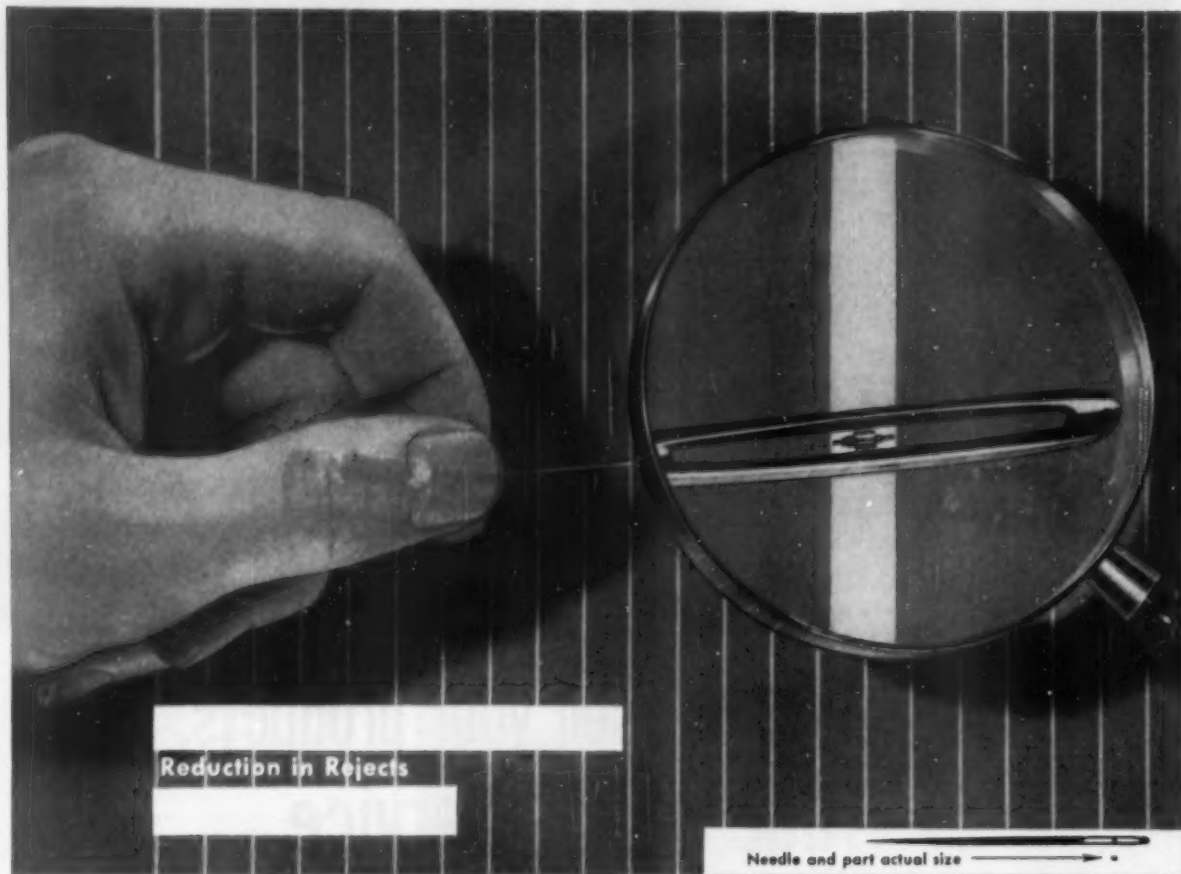
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Almost invisible to the naked eye, these tiny pinion pivots for small precision wrist watches easily fit into the eye of a small darning needle. And they are mass produced on automatic screw machines!

It's tough enough to work with such minute parts, but take a look at these really close tolerances: Over-all length is .0610" with a tolerance of  $\pm .0008$ ". End pins are .004" round with a tolerance of  $\pm .00002$ ",  $-.00000$ ". The first steel used couldn't meet these strict specifications. Rejects ran too high.

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# **Carpenter** **STEEL**

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# U. S. Atom Power Is Set to Jump

**B** RITAIN'S nuclear engineers, the builders of the Calder Hall atomic power plant that began producing electricity last week (page 126), have helped set off one chain reaction for which they never dreamed they'd be responsible. The reaction began as a dispute among U. S. atomic technicians, spread and became a Congressional debate this summer, turned into a campaign issue in the fall. Through all this, the critical question has been: Is the U. S. losing its world leadership in developing electrical power from the atom?

The question is still not settled. Time alone will prove which side is right. But the argument already is increasing the tempo of the U. S. atomic power program. As the industry, its leaders, and the government speed up their work, these developments lie close ahead:

- Before Jan. 1, private industry will propose construction of two, three, or four more large-scale (over 50,000 kw. capacity) atomic power plants.

- After the Presidential election, no matter which party wins, the government will speed up its work on big atomic power plants. If Pres. Eisenhower is reelected, one or two plants may be built by the government alone, more will be financed jointly by government and industry. If the Democrats get in, the government will start working on two or three of its own plants, and more will follow.

- **Not Outstripped**—Calder Hall's part in pressing these developments is largely symbolic. Certainly, as the British claim, it's the world's first big atomic power plant; the U. S. will have no plant producing comparable amounts of power until the reactor at Shippingport, Pa. (cover), goes into operation. Though this doesn't mean that Britain has outstripped the U. S. in nuclear power technology, it does mean that Britain may threaten this country's future leadership in the field.

Much as the U. S. might dislike that prospect, it worries much more about the chance of being outstripped by the Soviet Union. Russia, like the U. S.,



**Charles H. Weaver**  
Vice-President of  
Westinghouse Electric Corp.



**Philip A. Fieger**  
Chairman of  
Duquesne Light Co.



**Willis Gale**  
Chairman of  
Commonwealth Edison Co.

274,000 kw.

Yankee Atomic Electric Co. will operate Rowe, Mass., plant (134,000 kw.) now in advanced planning.

140,000 kw.

Consumers Public Power District will operate Hellum, Neb., plant (75,000 kw.) now in advanced planning.

65,000 kw.

Duquesne Light Co. will operate Shippingport, Pa., plant (65,000 kw.) now near completion.

1,140,000 kw.

Florida utilities group will operate plant (200,000 kw.) at undecided location, now in early planning.

940,000 kw.

Pennsylvania Power & Light Co. will operate a Pennsylvania plant (150,000 kw.) now in advanced planning.

790,000 kw.

Consolidated Edison Co. of N. Y. will operate Indian Point, N. Y., plant (236,000 kw.) now entering construction. (96,000 kw. of this output will be from non-nuclear sources.)

554,000 kw.

Commonwealth Edison Co. will operate Dresden, Ill., plant (180,000 kw.) now entering construction.

374,000 kw.

Detroit Edison Co. will operate Monroe, Mich., plant (100,000 kw.) now entering construction.

Virginia-Carolina utilities group has atom power plant in early planning, but location, capacity, and completion date are undecided.

**How U. S.'s Big  
Atom Power Plants  
Will Hit Their Stride**

1957 1959 1960 1962

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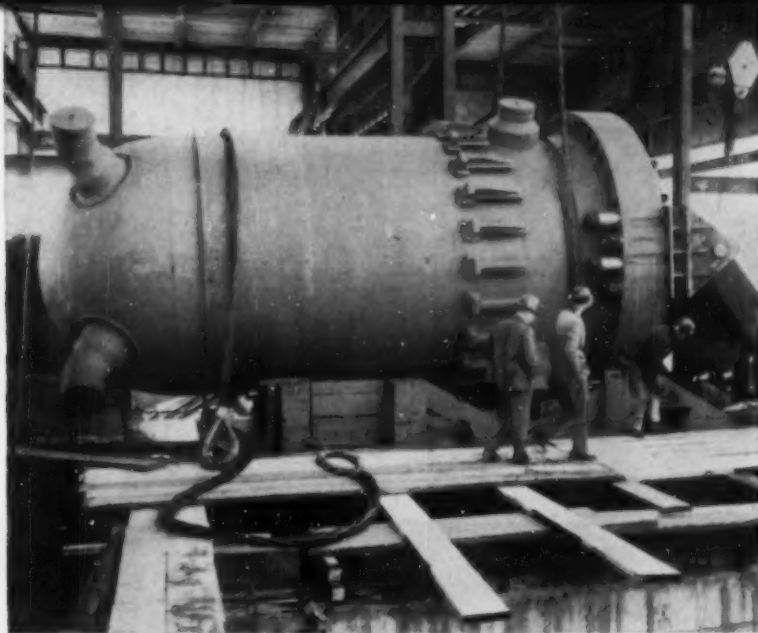
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**IN CANADA: CANADIAN ACCEPTANCE CORPORATION LIMITED**





In delicate operation, U. S.'s first big power-producing reactor vessel is set in place—deep down for safety—at Shippingport (Pa.) atomic power plant.

### (Story starts on page 111)

still has no large atomic power plant in operation. But both the Russians and the British appear to be planning and building these plants faster, and in greater numbers, than the U. S.

• **Score**—The score among the three nations, in terms of total power production from nuclear plants, is:

**Britain:** 2-million kw. by 1965.

**Russia:** 2.4-million to 2.5-million kw. by 1960.

**U. S.:** Some 800,000 kw. by 1960, from 1.2-million to 1.3-million by 1965. The U. S. plans to have five large plants, besides Shippingport, working by 1960. Three more large plants are planned for opening in the following five years.

• **Different Aims**—Some U. S. atomic experts still believe that Calder Hall's success isn't much of a contribution to the advancement of nuclear power production. The plant is primarily a producer of plutonium for Britain's military stockpile; its power is a by-product. U. S. plants, planned or in construction, are intended primarily for power production.

But advancement or not, the opening of Calder Hall is a sign that Britain is serious about nuclear power development. And the gap that probably will exist between Russian and U. S. atomic power production by 1965 is too wide for the U. S. to have any possible doubt that the Soviet Union is serious, too.

### I. Is U. S. Too Slow?

The reason for that gap is that the U. S. approach to nuclear power production differs sharply in many ways from the Russia's and Britain's. From the start, the U. S. has chosen to test

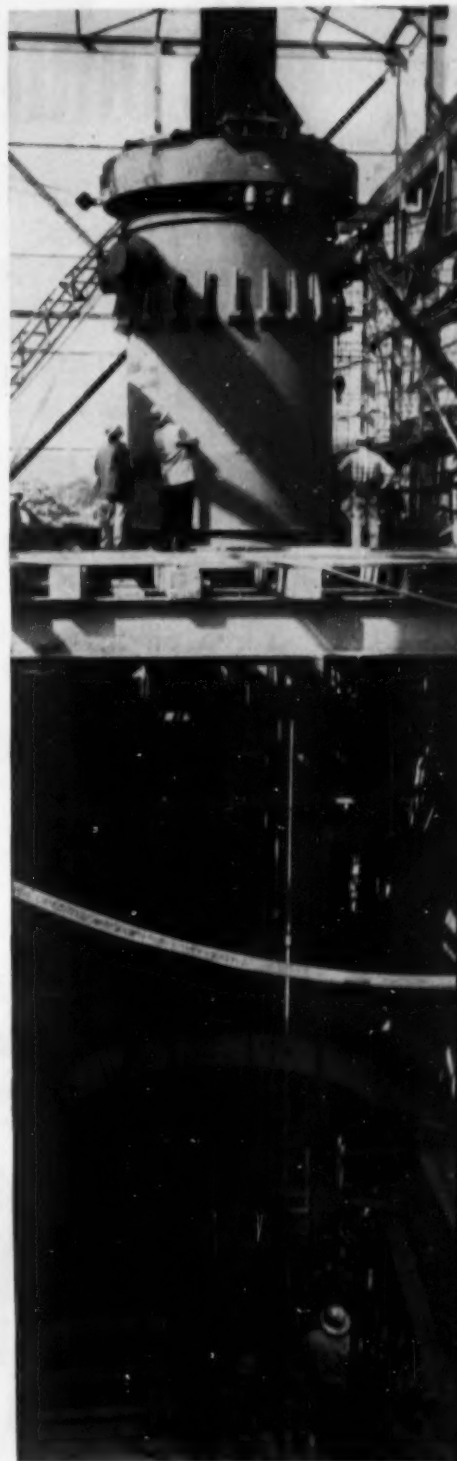
various types of experimental reactors, aiming at little or no actual power production. It has built two, sometimes more, experimental plants of the same type so that structural and operational problems could be solved. All these experimental plants have been built under governmental direction, with the Atomic Energy Commission providing all or most of the financing.

But now, the large nuclear power plants are being built by industry alone or in partnership with the AEC. The idea, of course, is to gear civilian atomic power production to the private enterprise system, to count on the profit motive to hold down construction and operating costs.

• **Reappraisal**—But now that the Russian and British programs—entirely government-financed—are holding out the promise of many more plants and much more power, some of the U. S.'s top nuclear technicians, and politicians, are demanding that the U. S. program be reappraised. They're wondering if it's time for the government to step in and build large atomic power plants of its own in order to give new impetus to the whole program.

It's just about inevitable in an election year that a question like this would become a political issue.

• **Heated Issue**—Steam was pumped into the issue when Sen. Albert Gore (D-Tenn.) renewed this summer a bid he had made last year to direct the AEC to build six large atomic power plants. His bill was defeated, but a full-scale Congressional debate boiled up. Republicans claimed Gore was heading a plot to discredit the Eisenhower Administration. Democrats ended by charging AEC Chmn. Lewis



*Plastics have a way for*

# Products on the move

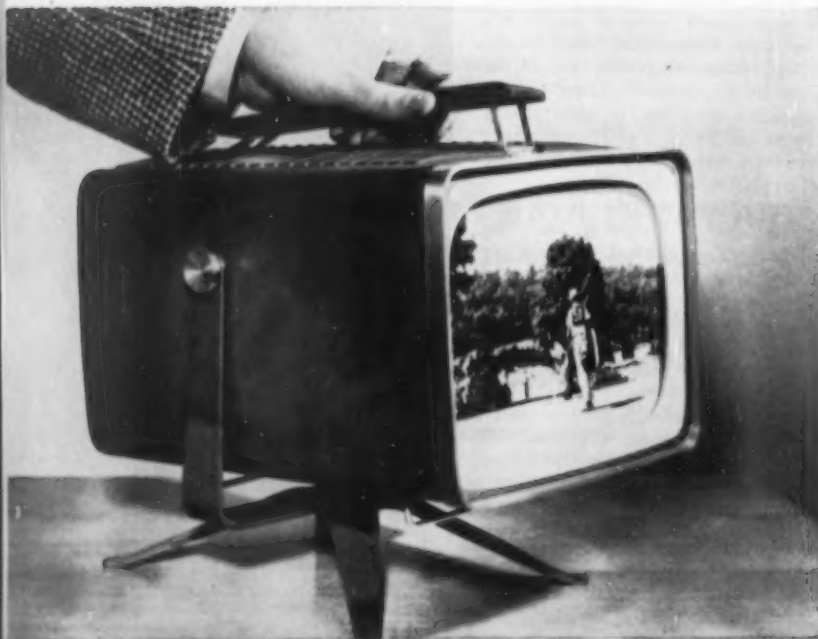
**I**n fact, plastics have an infinite number of ways to do the jobs that create fast-moving sellers in today's competitive markets.

Sometimes it's the way to make a product possible. Other times a cost-cutting or time-saving job is "top of the list." Or, you may need to make a product stronger, tougher, last longer or keep its appearance longer.

Look into the epoxies, vinyls, styrenes, phenolics, polyethylenes, polyesters you'll find in greater variety at Bakelite Company. They are full of ways to get and keep products on the move . . . *your* products.



**Dented fender patched in 25 minutes!** New fast and simple method uses compound based on BAKELITE Brand Epoxy Resin. When hard (takes only 15 min. with heat lamp; one minute with torch), resin resists impact, prolonged stress and weathering, and takes a superior finish.



**RCA Victor selected a coating** based on BAKELITE Brand Vinyl Resins for their TV that travels. "... by its very nature the versatile set would be used in a variety of locations — patios, recreation rooms and kitchens. An attractive, durable, scuff-resistant finish was needed." Perhaps such a coating can solve a problem for you—with long-lasting protection against corrosives, temperature extremes, moisture, abrasion and destructive atmospheres.

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Because containers and bottles made of BAKELITE Polyethylene are light in weight, resistant to most chemicals, and virtually unbreakable, acids are now stored and shipped in them with greater safety and at considerable savings in shipping costs?



**Most rear windows for convertibles** are made of VINYLITE Brand Plastic Sheet-  
ing. Season after season, it stays clear and glossy. Stays flexible, too — it won't crack under repeated stretching and folding. Perhaps this combination of toughness, transparency, and weather resistance can fit a product idea of yours.



**After roughing out damaged area** with hammer and dolly, and sanding clean, compound is applied, built up and shaped roughly to damaged area. It's then hardened with solder torch or heat lamp. Shrinkage is no problem.



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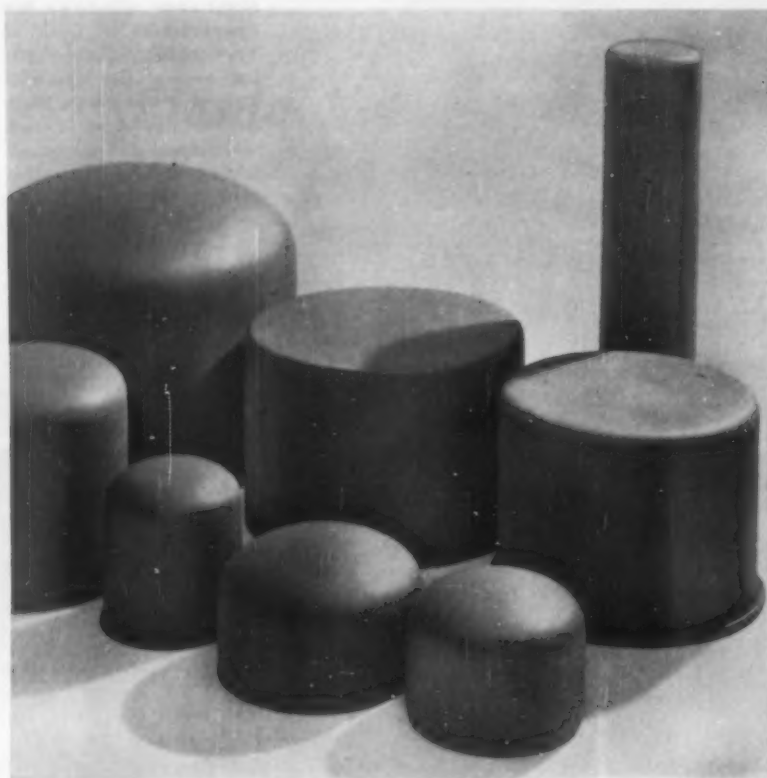
**Automation** is on the move, too! And these flexible tubes made of BAKELITE Brand Polyethylene make smooth arteries for the pulses of pneumatic instrumentation. Economical, too. They saved one chemical plant over  $\frac{3}{4}$  million dollars in installation costs by averaging 14½ cents per foot installed compared with \$2.10 for rigid metal tubes.

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Many product designers have found a single way to solve all these problems. They specify Hackney deep drawn shapes or shells. These lightweight, seamless parts may be cylindrical, spherical, conical or tapered...most any streamlined shape your designs call for. Capacities from one quart to 70 gallons. Flanges, openings, fittings or brackets placed where you need them. Just send us a sketch of what you have in mind. Let us know whether you're thinking of steel, stainless steel, nickel, aluminum, magnesium, copper or alloy. We'll send you the details.

### Pressed Steel Tank Company

1493 South 66th Street, Milwaukee 14, Wisconsin

Manufacturer of Hackney Products



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116 Industries

L. Strauss and the Republican-appointed majority of AEC commissioners with complacency, or worse.

## II. Program Speeds Up

But even the severest critics of the U.S. atomic program do concede that the U.S. has a surprising number of plants in the works, considering the uncertainties of the art of reactor building.

• **How They're Judged**—Reactors generally are classified according to the fuels, coolants, or moderators they use.

The fuel generally used is uranium in solid form. It's usually coated—to resist corrosion—with aluminum, zirconium, or stainless steel. Tests are now indicating that liquid fuels—uranium in a solution or in a molten form—are promising.

The coolant used in most U.S. reactors is water. Britain's first reactors are gas-cooled, but until recently the U.S. has shunned this type because gas is less efficient as a heat exchanger. Liquid metal is used as the coolant in the reactor of the nuclear submarine *Seawolf*, and U.S. nuclear technicians are just beginning to test this method in stationary power reactors.

The moderators are used in reactors to slow down neutrons so that they will cause extra reactions in the fissionable material. The most efficient moderators are graphite and heavy water. But ordinary water is widely used because it's a lot cheaper than either of those materials. A "fast" reactor uses no moderator, since it is designed to use neutrons traveling at top speed.

• **Plant for Nautilus**—The pressurized water type of reactor, with which U.S. reactor builders are most familiar, uses ordinary water, kept under high pressure to prevent it from boiling, as a coolant.

Only two of these power producing reactors have been built, both by Westinghouse Electric Corp. on government contracts. The first was the prototype for the submarine *Nautilus*, the second, the actual power plant for the *Nautilus*.

• **Shippingport**—Now a big brother of the *Nautilus* power plant is on the way. This is the Shippingport reactor. It, too, is being built by Westinghouse for AEC. AEC is putting up most of the money for the nuclear part of the plant and will own the reactor; Duquesne Light Co. is providing the conventional generating equipment and will operate the entire plant.

Shippingport will have at least a 65,000-kw. capacity when it's finished next year, but Duquesne and Westinghouse engineers confidently expect this will be boosted to 100,000 kw. by the time the plant gets through its early tests.

But whatever the capacity, the power





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*speeds paperwork for D. W. ONAN & SONS INC., Minneapolis, Minnesota*

15,300 masters prepared by XEROGRAPHY last year to speed multiple copies of

In 1918, D. W. Onan started his business in a small, rented garage in Minneapolis. Today D. W. Onan & Sons Inc. is a leading manufacturer of electric plants with world-wide acceptance and use of Onan products. Onan Electric Plants furnish an independent electric power source where electricity is not available; and a standby source for hospitals, institutions and industries where power interruptions would prove dangerous or costly.

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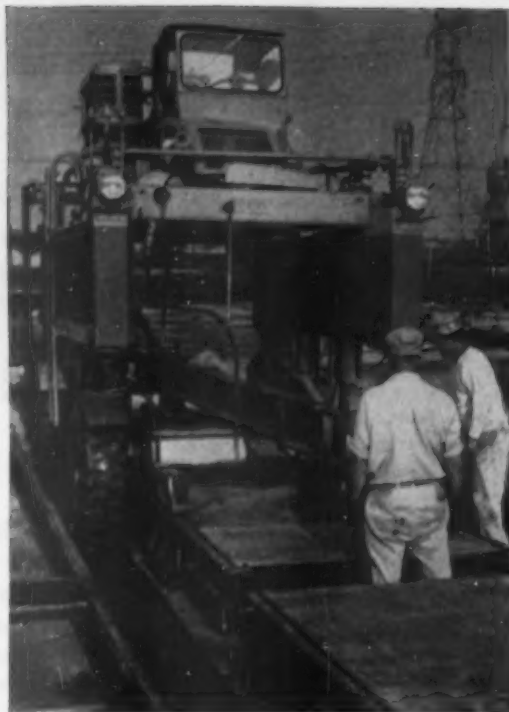
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will be expensive—according to some estimates, more than 5¢ per kwh. More efficient fuel should cut this cost after the first few years' operation. But there's no hope of Shippingport making power at the 6-mill to 9-mill per kwh. cost of most conventional U.S. power plants.

• **Giants**—Plans are for Shippingport's capacity to be quickly outstripped. Two other big pressurized water reactors will start work by 1960. These are the 236,000-kw. Indian Point (N. Y.) plant of Consolidated-Edison Co. of N. Y., and the 134,000-kw. plant of Yankee Atomic Electric Co., at Rowe, Mass.

Con Ed hopes Indian Point's power will cost a little less than 9 mills a kwh. But this is based on an unproven experiment. In the reactor, thorium will be bombarded by neutrons, converting some of it to uranium-233, a fissionable isotope for which there are no fabricating facilities. But Con Ed is gambling that someone will find a way to fabricate and market the U-233 and so defray its power costs.

Yankee Atomic also wants an advanced pressurized water type reactor. But Yankee's Pres. William Webster is cautious about the economics of the plant. He says, "Until many uncertainties are worked out through research and actual practice, it's doubtful whether any precise figures can be given of power costs."

Nevertheless, you can bet that Yankee Atomic will come up with something better than the 52-mill cost of Shippingport's power.

• **Water Boilers**—One of the U.S.'s farthest-advanced reactor types is the "water boiler," one that uses water as a coolant, permits it to boil in the reactor, and uses the steam to drive a turbine. The water boiler is not so complicated as the pressurized water reactor, with its heat exchanger and secondary steam circuits.

The really exciting job on this type of reactor is being done for the Dresden, Ill., plant of Commonwealth Edison Co. (BW—Sep. 15 '56, p. 188). Construction is about to start on this—General Electric is building the reactor—and the plant should be finished in 1960.

Commonwealth Edison's Chmn. Willis Gale is sure Dresden will produce power at 7¢ mills a kwh. But he admits this wouldn't be possible if it weren't for the fact that a group of associated utilities is contributing to the plant's \$45-million total cost, thus lowering Edison's amortization costs.

Six smaller water boiler reactors are planned by municipal and cooperative utilities. If they're all finished on schedule, they'll be producing a total of 100,000 kw. by 1961.

• **Plane Builder's Entry**—North American Aviation, Inc., will complete an

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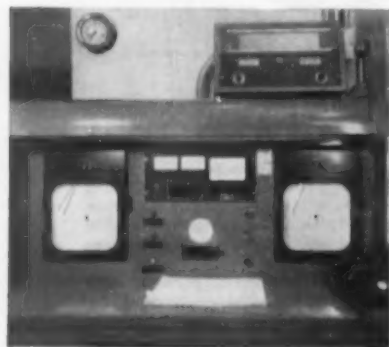
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**COMPLETELY UNATTENDED** pumping station on this oil corporation's products pipeline located in Oklahoma. Pressure, suction, and electric power readings are continuously transmitted via microwave antennas at top of mast to control center which is almost 25 miles distant.



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6.13

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experimental sodium-cooled reactor for AEC early next year. Sodium, as a liquid metal, is highly efficient as a heat exchanger to create steam. Steam from this reactor will be sold to Southern California Edison Co., which will use it in generating equipment to produce 7,500 kw.

Meantime, North American is working on a larger reactor of the same type. This one, a 75,000 kw. job to be completed in 1959 or 1960, will go to Consumers Public Power District.

• **For Exporters**—Another version of this type, with extra significance to it, is being planned as a small government-supported power plant. Nuclear Development Corp. of America proposes to build it for Chugach Electric Assn. at Anchorage, Alaska. It would be cooled by sodium, and the moderator would be heavy water. There's promise that this reactor type could eventually be fueled with natural uranium. Fuel for most U.S. reactors is uranium enriched with U-235. But the U.S., and perhaps Russia, are the only countries with facilities to handle the enriching job. Foreign buyers, who wouldn't want to be dependent on the U.S. for their reactor fuel, are looking to some such reactor so that they can use their own supplies of natural uranium.

• **"Breeder's" Troubles**—Another variety of reactor, planned to produce power at a plant outside Detroit, is running into a good deal of trouble. Detroit Edison Co. would operate this one and own it along with a group of associated utilities and manufacturers. It would be a fast breeder reactor—similar in some respects to a small government reactor that went out of control last year and spewed out some of its radioactive contents.

A committee of scientists that passes on plans for reactors for AEC said it doubted the Detroit reactor's safety could be assured in time for its completion in 1960. But AEC issued a conditional construction permit for the project, emphasizing it wouldn't allow the plant to operate until its safety was assured.

Now three labor unions are contesting Detroit Edison's plans. They want the whole project postponed until safety of fast breeder reactors is thoroughly proven.

• **Others**—U.S. atomic technicians are working on at least three other types of reactors.

**Experimental homogeneous reactors** have been built at two of AEC's national laboratories. In these, fuel and moderator will be mixed, pumped through the reactor, where they heat up, and then piped to a heat exchanger. The liquid fuel mixtures tested so far have proved highly corrosive, and researchers have yet to find pumps,





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and better employee-management relations," comments President George L. Nankervis. "COLOR DYNAMICS has contributed to higher productivity. Our entire work force takes greater pride in the appearance of our new plant. They help to keep it clean and orderly, reducing housekeeping problems. We consider these benefits a desirable and substantial bonus as they cost us no more than conventional maintenance painting."

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# They're Getting Away from It All by the Millions!

The biggest factor in today's explosive exodus  
from city to suburb is the automobile



**H**OW many Americans would you say live in the suburbs today? Five million? Twelve million? Or perhaps even twenty million?

The answer: more than 45 million, or more than one-fourth of the total U. S. population of 168 million. And a suburban population of more than 63 million is predicted for 1975!

Suburban homes once were regarded as within the means of only the well-to-do. But Suburbia today is fast becoming the away-from-it-all retreat of America's great middle-income group . . . families whose earnings average about \$6,500 a year.

#### What's Behind this Revolution?

This concerted, postwar rush to the suburbs could hardly have come about without the *automobile*.

By freeing the American worker from the necessity of living in the immediate area of his job, the automobile made possible a more pleasant, a more spacious, a generally more enjoyable way of life for millions of people.

And it's a way of life now solidly based on automotive transportation—the family car, the delivery truck, the school bus. For even most of those who commute to the city by train or bus, drive or are driven to the station or bus stop.

Suburban living is mobile living. It is revolutionizing marketing practices, supplying a dynamic stimulus to our whole economy. It has opened up elaborate new networks of roads and expressways for swift, convenient linkage of city and suburb. It has created magnificent new shopping centers with acres and acres of parking space, where everything from the homeliest of necessities to the costliest of luxuries is available.

It has made the drive-in an American institution. Today, the suburbanite can bank, shop, eat, be entertained, leave and collect laundry, without ever leaving his car.

#### It's a Two-Car World

Suburbia, with its new patterns of business and living, is probably the largest single reason for today's rapid

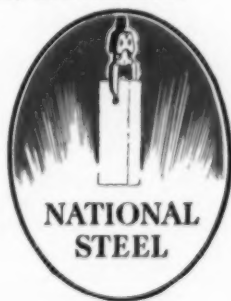
growth in the number of multi-car families. The pursuits of different family members vary widely; longer distances must be traveled by each. One family car is no longer adequate.

Today, two cars are virtually a family *must* . . . with the popular and versatile station wagon widely favored as the "second car." So the automobile has greatly expanded the scope of suburban living, and Suburbia reciprocates by creating the need for more and more cars.

#### National's Role

We at National Steel take pride in the great contribution of the automobile to the health and well-being of our people and our nation. Because National Steel, through three of its major divisions—Great Lakes Steel at Detroit, Michigan, Weirton Steel at Weirton, West Virginia, and The Hanna Furnace Corporation at Buffalo, New York—is an important supplier of the steel and iron used by automobile manufacturers.

Through the skilled engineering and manufacturing of the automobile industry, this nation each year enjoys safer, stronger, more economical cars. Our constant goal—through research and cooperation with the automobile industry—is to make better and better steel for still greater safety, strength and economy in the cars and trucks of today and tomorrow.



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Splendid suburban business centers, with every possible shopping facility and acres and acres of adjacent parking space, are only a short drive away for suburbanites.



Typical of the motoring conveniences of Suburbia today are the drive-ins. Motorists can eat, do their banking, buy groceries, see movies—all without leaving their cars.



Ease and speed of access to the breadwinner's job in the city, through the automobile, are multiplying the number of suburban-dwelling commuters to and from our cities.





valves, and related gear that can stand up to this corrosion. But Pennsylvania Power & Light Co. is betting new mixtures, or suitable pumps and gear, will be found, for it is planning this type of reactor for a plant that it wants to begin using in 1962.

Experimental reactors using organic compounds as moderators and coolants are being investigated by North American Aviation, under AEC contract. North American plans to build a 12,500-kw. reactor of this type for the city of Piqua, Ohio.

A test reactor using molten uranium and bismuth as fuel is under study at Babcock & Wilcox. The fuel would act as coolant, as in a homogeneous reactor. The city of Orlando, Fla., has asked AEC for help in building a 25,000 kw. to 40,000 kw. plant of this type, and Florida Power & Light Co., Florida Power Corp., and Tampa Electric Co. may jointly build another of these near Tampa.

### III. Push From Politics

It's plain from all this that there's plenty of work going on in the field. If the scarcity of actual construction gives little reason yet for cheering about the U. S. atomic power program, the diversity of the program's approach leaves little room for distress. U.S. nuclear technicians think it's highly unlikely that any other nation is trying to prove out so many different types of power reactors as the U. S. is.

The speed-up inside the industry is on, too. There are signs that more utility companies and groups are preparing privately financed plans. Early this month, four utilities in Virginia and the Carolinas said they will build a large atomic plant without federal assistance. More of these announcements are expected before Congress reconvenes in January.

• **Utilities Fear**—And one big reason for the extra push is that at least a segment of the utilities industry fears that Sen. Gore's proposal for half a dozen large government-built atomic plants may be the opening wedge for creation of new government power networks. So, these utilities guess, the best way to beat this possibility is to speed up privately financed work.

Others believe a federal program would be a drag on their own atomic power plans. Says one of these: "A government program would almost certainly be a rush job. Materials and skilled manpower for this kind of work are already scarce. And you know who'd get the men and the materials if a government 'crash' program started—we'd be out in left field with our projects." **END**



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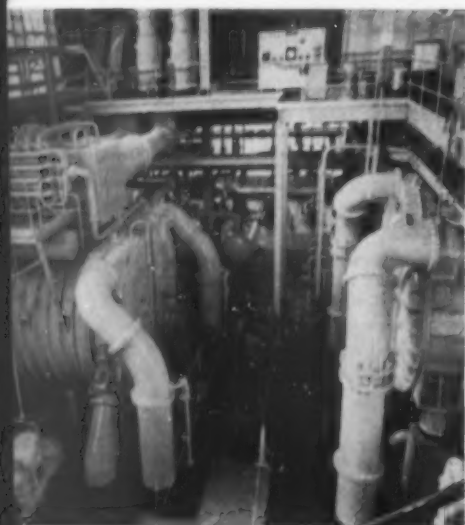
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**URANIUM** fuel is in cartridges lowered through charging floor (right). Heavily shielded machines insert and remove cartridges. Graphite rods control reaction.

**REACTOR NO. 1** at Calder Hall (below) is housed in big square building at right center. On left, water cooling towers; on right, administration headquarters.



## Start-Up of World's First Power Reactor



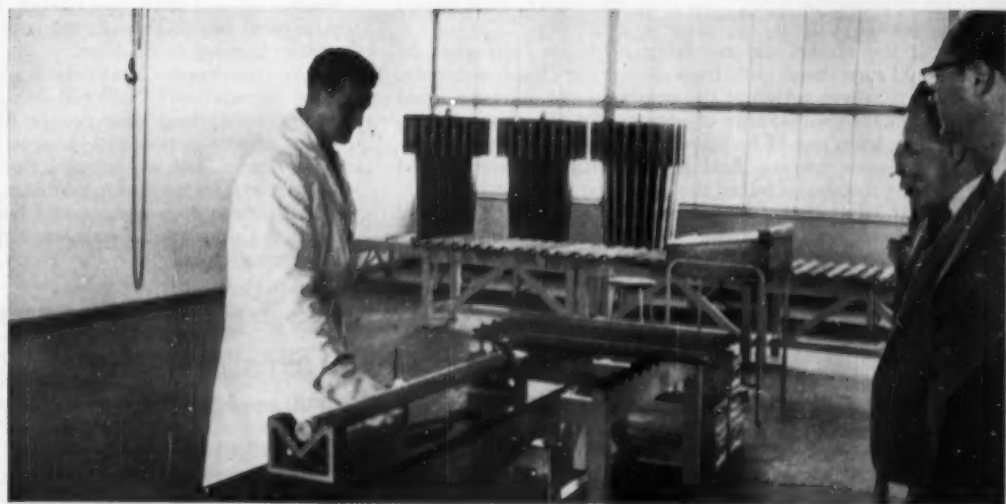
**TURBINES** are standard power station equipment, driven by steam from water heated by reactor coolant gases.

**W**ITH ALL the pomp that the British reserve for historic occasions, Queen Elizabeth II came last week to a small village on the northwest coast of England and threw a switch. Her gesture sent electricity flowing into the power lines from the world's first large nuclear power station.

Britain's Calder Hall plant is only a prototype, and admittedly an inefficient one. But it stands as evidence of Britain's fast start in the race to develop nuclear power (page 111). By 1975, said R. A. Butler at last week's ceremony, atomic reactors will be producing as much electricity as today's conventional plants in the United Kingdom—perhaps twice as much.

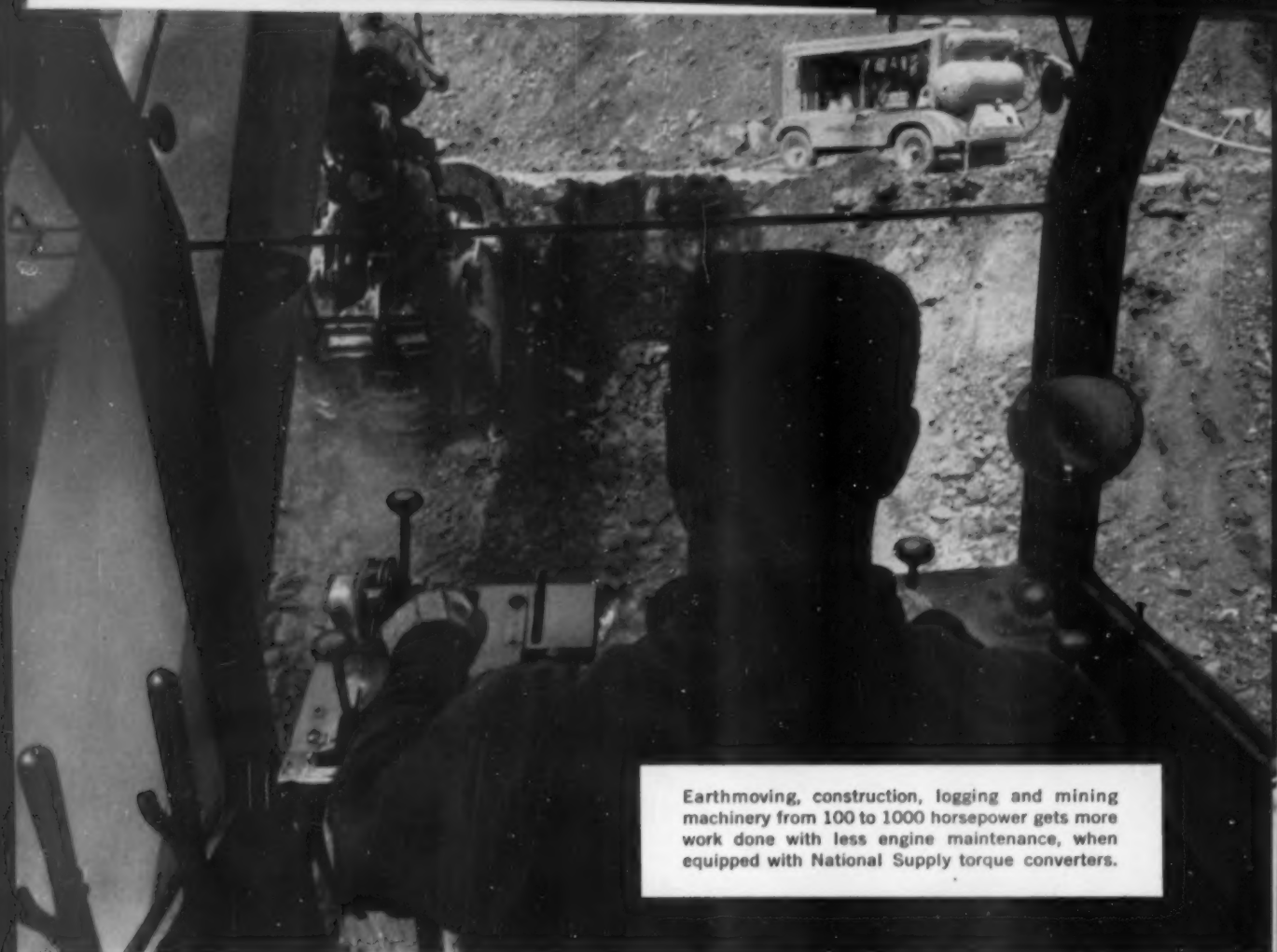
• **Speed and Power**—Calder Hall is a test, both of the speed with which such a plant can be built and of its ability to produce significant quantities of electric power. Its design marks a major advance into the atomic wilderness, although the design is already outdated by better ones; in con-





← **CHARGING** machine receives fuel cartridges. In right background is more heavily shielded machine for removing the even "hotter" used fuel.

**CARTRIDGES** in rear are loaded with uranium for stoking reactor through the charging floor shown in picture at top of page.



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At the moment this picture was taken—as the shovel was digging into the bank—the operator needed every bit of power he could coax from the engine. How would he get it?

If the shovel did *not* have a torque converter, he would race the engine, then engage the clutch suddenly. The flywheel action of the engine would deliver a great—though brief—surge of power. But the shock on the power train would be severe—as much as 10 times normal engine torque. And if the quick power-surge did not lift the shovel out of the bank, the engine might stall.

But what if the engine is equipped with a National Supply torque converter? The operator simply holds the engine at almost constant speed. *The torque con-*

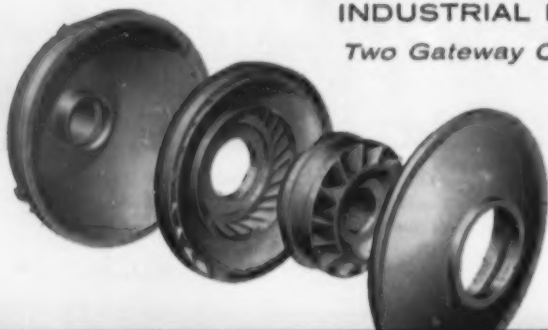
*verter automatically multiplies the power delivered to the job. The work is done smoothly. There is no sudden shock, no overload, no chance the engine will stall. And most important—in the course of a day, the operator gets more work done!*

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*Pace-setters in the progress of  
industrial power transmission*



"... no real measure yet of the cost of electricity from an atomic plant ..."

CALDER HALL starts on p. 126

struction under a three-year crash program, engineers and builders licked problems they had never before met.

Britain's Atomic Energy Authority covered the entire \$56-million cost of the plant, which produces electric power only as a byproduct to its main function: making plutonium for military use. But the plant serves as a model and a proving ground for the Central Electricity Authority's 10-year, \$980-million program of 12 nuclear power stations.

At least eight of the 12 stations will be based on the Calder Hall plant, though they will be designed for maximum power output, with plutonium as the byproduct. This is accomplished by engineering the plant for higher temperatures in the atomic pile and the coolant that carries heat to the conventional generating stations.

Calder Hall's two reactors, using carbon dioxide to carry the heat, can support 92,000 kw. of generating capacity—only medium-size for a conventional steam power station. CEA's first two stations, already under bid and scheduled for completion in 1960, will be in the 200,000-300,000-kw. class.

## I. On-the-Job Training

"Calder Hall wasn't designed—it was just built," says John V. Dunworth, head of AEA's reactor division.

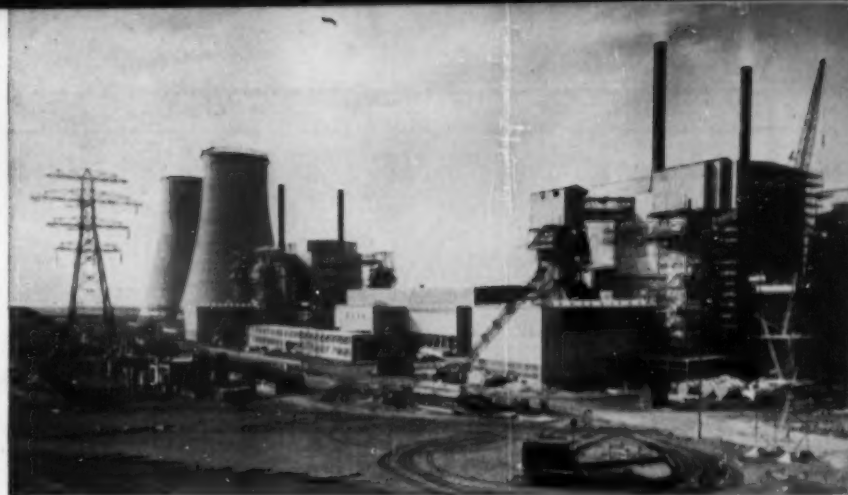
Calder Hall grew out of urgent need. Britain's planners looked ahead and foresaw a 20-million-ton annual shortage of coal to produce electricity by 1970-75. So they decided to adopt a proven design and start building power reactors—fast.

In 1946, the graphite-moderated, gas-cooled type of reactor had been built into the plutonium production plant at Windscale, within sight of Calder Hall and now a big customer for its electricity. AEA elected to scale up this type of reactor to produce steam for an electric plant.

In August, 1953, the first cadre of engineers was pulled off another job of building a terminal at London Airport and was sent to the Calder Hall site. Within two months, a labor force of 1,100 was at work on a tight schedule, with the highest priorities for materials and manpower.

• **Over the Snags**—Construction problems were unprecedented, but the work was rammed through without any serious delay.

For example, each of the two reactors



**REACTOR NO. 2** at right above is about ready to go into action at Calder Hall. Each reactor supports about 46,000 kw. of electric generating capacity.

is enclosed in a spherical container 37 ft. in diameter and rising 70 ft. above ground. British industry had never built so large a pressure vessel, and entirely new welding and heat-treating techniques had to be developed. Each welder was specially tested before he was picked for the job. The assembled spheres were heat-treated, to relieve stresses after welding, by being turned into ovens and brought to a red heat.

Every foot of weld in the reactor spheres and in the heat exchangers, where the carbon dioxide under pressure heats river water to steam for the turbo-generators, was radiographically tested; every square foot of steel plate was ultrasonically inspected. The spheres were tested at an air pressure of 130 lb. per sq. in.—the load of water for the more usual hydraulic testing would have been too heavy for the foundations.

Each reactor is surrounded by an octagonal shield of concrete, 7 ft. thick and 90 ft. high. Through use of special materials and of mechanical and pneumatic vibrators, the contractors made this concrete denser than any previously poured in Britain—162 lb. per cu. ft., compared with a standard 145 lb.

Even the assembly operation offered unexampled problems. To put the reactors themselves inside the concrete shields, it was necessary to lift loads of more than 100 tons at least 100 feet into the air. To do this job, the builders assembled Britain's largest crane, dubbed "the big stick," with a 150-ton capacity. The crane rose 200 ft., was braced by guys that radiated down to earth some 800 ft. from its base.

• **The Builders**—Taylor Woodrow Construction, Ltd., prepared the site, built the foundations and concrete shields; Whessoe's, Ltd., built and installed the reactors.

As a sample of what these builders were up against, Calder Hall "A" (the

two-reactor plant shown above) required Taylor Woodrow to pour nearly 250,000 tons of concrete. And AEA people say that Whessoe's is the only company in Britain with enough experience to site-weld the 2-in. steel plate for the pressure vessels. Each of the spheres was fabricated from about 500 tons of plate in 2- to 6-ton chunks.

Pictures don't show the concrete shields or the pressure vessels—they're enclosed in buildings.

## II. Cost of Electricity

Because it's not primarily a power-producer, the Calder Hall station won't provide any real measure of what it costs to make electricity in an atomic plant. Indeed, the economic picture is badly blurred by such factors as:

- How much of construction and operating cost should you allocate to the plutonium production, the major function at Calder Hall?

- What is the dollar value of the plutonium that's sold along with the electricity?

- How long will one charge of fissionable fuel last? What does it cost?

- How can you compare the cost of power from fissionable fuel with that from steam or oil plants unless you can predict what the conventional fuels will cost some years hence, when the atomic stations get going widely?

More than Calder Hall, the dozen CEA nuclear power stations will answer some of these questions.

- **Phase One**—The first two CEA stations will be basically the same size as the Calder Hall plant and will cost about the same. But by running hotter, they'll turn out three or four times as much electric power. Four groups are bidding on these two stations: the Associated Electrical Industries—John Thompson Group; the General Electric-Simon Carves Group; the English



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CALDER HALL starts on p. 126

Electric-Babcock & Wilcox Group;  
and Nuclear Power Plant Co.

Design follows that of Calder Hall;  
so does that of at least six other plants  
in the 12 units making up Phase One of  
Britain's shift to atom power. The  
remaining four may be built around  
more advanced types of reactor.

Calder Hall, meanwhile, is getting  
another two-reactor unit, scheduled for  
completion in 1958. Another Atomic  
Energy Authority plant is being built  
at Chapel Cross, and a fast breeder  
reactor at Dounreay, on the northern  
tip of Scotland, is scheduled to be  
operating near the end of 1957.

These AEA stations will provide ex-  
perience for the later units in CEA's  
Phase One and for the sodium or water-  
cooled reactors in CEA's Phase Two.  
The more advanced reactors are already  
under design.

• **Plutonium**—Even for the stations  
designed primarily to produce electric-  
ity, with plutonium as only a byproduct,  
any evaluation of the unit cost of nu-  
clear electricity must come back to the  
market value of plutonium.

There's a market for plutonium, both  
for military use and to enrich the fuel  
used in the more advanced reactors  
(Calder Hall and the first few CEA  
units use natural, not enriched, uranium  
fuel). But the only customer is the  
government, so it's hard to figure a  
true market price.

AEC has established a range of book  
value for plutonium, however, figuring  
conservatively between \$14 to \$28 a  
gram. On this conservative basis,  
electricity from the early CEA plants is  
estimated by AEA at between 5 mills  
and 7 mills per kilowatt-hour.

• **Comparison**—Even with home-pro-  
duced coal at \$11.20 a ton, the cheapest  
in Europe, the most efficient of Brit-  
ain's coal-fired stations cannot do better  
than 7 mills per kilowatt-hour. And  
the cost goes far higher when coal has  
to be imported from the U.S. at \$28  
a ton, as is already being done. How-  
ever, AEA sees little hope that the  
graphite-moderated, gas-cooled stations  
will ever get down to the 4 mills per  
kwh. cost in U.S. hydroelectric plants.

Capital costs of CEA's early power  
stations will run 24 times those of  
conventional stations. A 150,000-kw.  
station would cost about \$22-million for  
the reactor, \$25-million for the steam  
plant, nearly \$7-million for engineering.  
This figures out to about \$350 per  
kilowatt.

The fuel charge—120 tons of uranium



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Atlas products help to make many of the things you eat taste better and stay fresh longer. Atlas chemical developments have contributed richly to the food, medicinal, cosmetic, and other industrial fields. And, in the near future, you'll be using and enjoying still better products for farm, home and factory—made better through Atlas chemical research.



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**Route of the EAGLES**



in two reactors—adds another \$14-million, raising the cost per kilowatt to \$480, compared with \$180 for a comparable steam plant.

The difference would be made up in economy of operation. AEA experts think unit costs would reach equality over 15 or 20 years of operation. A lot would depend on (1) the price of plutonium and (2) the trend in cost of conventional fuels. If Britain's electrical demand rises as expected, the need for importing more coal at double domestic prices would make even the crudest graphite-moderated nuclear stations seem comparatively economical, AEA people say.

• **Long Life for Design**—AEA sees a long development life for the Calder Hall type of station because:

- It uses natural uranium, much cheaper than the enriched fuels.

- It avoids requiring rare and unknown metals; the basic metallurgy of the materials used is well established.

- The carbon dioxide that's used as a coolant is plentiful and cheap.

- There's room for improvement of operating temperatures and pressures in future stations, hence a chance to reduce capital costs and increase operating efficiency.

Twenty years from now, AEA staffers say, power breeders—which produce more fissionable fuel than they consume—may have been built in sufficient numbers to let nuclear stations generate all the nation's electricity.

• **Export Market**—In addition to solving its own energy problems, Britain hopes also to take the lead in getting export orders for nuclear power stations. India and Germany are already known to be interested in 200,000-300,000 kw. sets of the Calder Hall type.

This is regarded as the optimum size for such a plant, and it happens to coincide with India's planned expansion of 200,000 kw. a year. In southeast India, coal-fired stations are doing no better than 17 mills per kilowatt-hour; even in western India, where power is produced most cheaply, the cost of 8.8 mills per kwh. is higher than AEA's most conservative estimate for nuclear power.

Britain is also interested in nuclear power plants for completely undeveloped areas. Here the need is for small plants of about 20,000 kw., and Britain is pinning its hopes again on the rugged graphite-moderated type of reactor.

Some top officials at AEA, however, say the present export market for power reactors is extremely limited. The nations most likely to want nuclear power stations are those that are already industrialized and already have the natural resources to produce power cheaply.

"Anyone buying a station now will be doing it for prestige reasons," says a high official of AEA. **END**



*Neutrancel: the newest reason why Hammermill Bond prints better, types better, looks better*



## **THE MAGIC OF NEUTRACEL**

# Now hardwood's finer fibers help Hammermill Bond fold more neatly

**H**AVE YOU SEEN the new Hammermill Bond? From the crispness of the letterhead, the sharpness of the typing, to the final, neater folding of the letter, you'll see qualities you like to have in your office stationery and business forms.

New printing methods and new office equipment created the demand for specific paper qualities best obtained by blending different papermaking fibers. Now with the exclusive process that produces Neutrancel® pulp, Hammermill has unlocked the special papermaking qualities that nature grows in northern hardwoods.

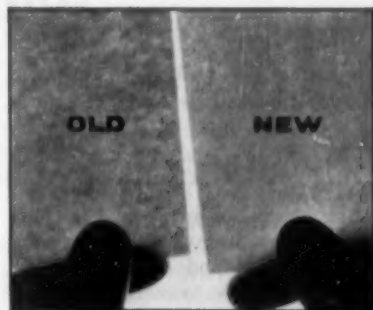
The new Hammermill Bond, made from Neutrancel and other bright, sturdy pulps, folds more easily and neatly. That's true because Neutrancel helps the blend of fibers knit together more closely

and evenly. The result is a clearer, more attractive formation—a smoother, velvety surface. You get better printing, typing, writing and carbon copies. And, Neutrancel imparts greater opacity and bulk to make your letters more impressive.

Only a few months ago, Hammermill-invented centrifugal cleaners were installed to make Hammermill papers cleaner than ever before. To that important development, we now add Neutrancel, a \$6,000,000 step forward to bring you Hammermill Bond that 1) prints better; 2) types better; 3) looks better. Ask your printer to show you samples. Hammermill Paper Company, Erie 6, Pennsylvania.



Printers everywhere use Hammermill papers. Many display this shield.



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with Neutrancel's finer fibers, costs no more



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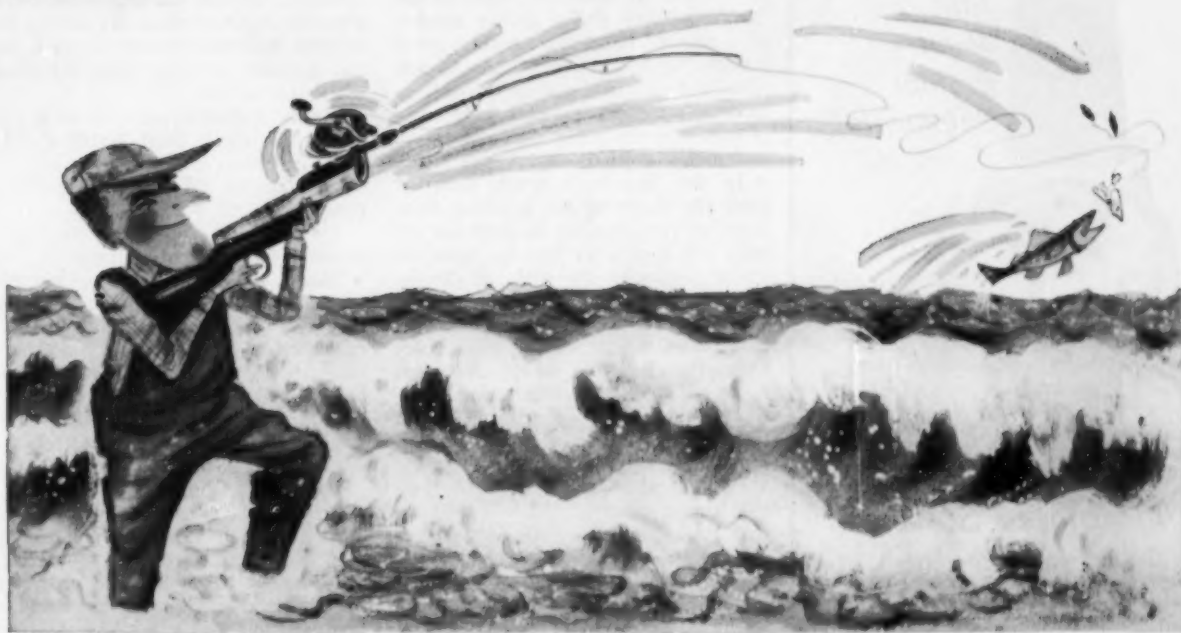
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No more surfcasting—just shoot the line to the fish; it's one new use cartridge makers are finding for their wares as they go . . .

## Shooting for Strange New Targets

Thanks to the resourcefulness and ingenuity of applied research, the century-old cartridge business has a promising young offspring that is moving close to industry status today. Its name: the packaged power industry. Its backers: the explosives producers.

In a few short years, the explosives men have diversified out of their traditional haunts into such bizarre and wide-ranging fields as devising a cartridge to fire out the line of ardent surf fishermen like the one above, exploding a man into the stratosphere, causing guided missiles to drop off used-up fuel tanks at precisely the right moment, evolving a two-minute cable-splicing technique, developing an emergency 60-second electric plant, and forming titanium into complex, usable patterns.

With new, imaginative applications pouring out of the laboratory with every passing month, there's no telling how big this fledgling industry will eventually grow. Estimates of its future run all the way from a conservative \$5-million-a-year business by 1960 to an astronomical \$1-billion-a-year in 1975.

An objective analysis would probably strike a short-run balance somewhere between the two extremes. But with current research prolific, for the long run the sky seems to be the limit. In the world of tomorrow, packaged power will probably do everything from getting your car out of the mud to starting

horse races and powering satellites.

• **What It Is**—It's the industry itself that invented the slightly glamorous name of "packaged power industry." If you wanted to be more technical, you might say it's the industry that produces "cartridge-actuated devices."

Regardless of the application involved, the problem is the same: development of a small compact source of energy to perform a specific job. When ignited, this energy (contained in a blank cartridge of appropriate design) can propel a piston forward at great speed, drive a stud into a wall, or start a jet engine.

• **From Military to Commercial**—Like many industries, the packaged power industry got its real impetus from the military. Probably the best known cartridge device so far is the one used to eject seats from airplanes. In this case, the pilot ejects himself by pressing a button that causes electricity to ignite the powder in the cartridge; the exploding powder generates energy and this energy, in turn, actuates a piston that ejects the seat.

Other equipment for survival in the air has also come out of the applied research of the packaged power industry—such things as devices to explode fuel tanks or bomb racks of the plane, or to jettison emergency equipment.

Today, though, research emphasis is swinging away from the strictly military into more potentially profitable com-

mercial applications. Winchester-Western a division of Olin Mathieson Chemical Corp., for example, is turning its main research effort toward such things as metal forming, starting diesel engines, punching holes by means of captive pistons, splicing cables, attaching lugs, tacking carpets, driving studs, and so on.

• **Helping Out Titanium**—Working with Pratt & Whitney and the Ford Motor Co., Winchester-Western researchers just recently helped overcome one of the toughest production problems of the glamor metal titanium. For years metallurgists had been bothered by a property of titanium that made it almost impossible to form in a die. Most metals, when pressurized in a die, conform precisely to the contours of the die and stay that way. Not so titanium. When pressure is released, it springs back from the die edges.

Titanium's nearly perfect strength-to-weight ratio, however, marked it out as the desirable metal for building inlet guide vanes for jet engines. The "spring-back" problem hampered its use until the packaged power industry came up with the idea of placing molten titanium in a die and firing a cartridge into it. When this is done, the springback is eliminated.

Both Ford and Pratt & Whitney are pilot-planting this method.

• **Big Potential**—The possibilities of the packaged-power metal fabricating





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**Diamond  
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technique don't stop with titanium, by any means. As more and more of the "exotic" metals find a greater number of common uses, this market could literally explode overnight. Already tubes and rectangular shapes have been reportedly formed out of a wide range of metals by the use of packaged power and molds, without any presses at all.

• **In the Sky**—In a totally different field, the ability of the heralded man-made satellite to reach its earth-circling orbit will depend in part on packaged-power research. As with all multi-stage missiles, scientists need a way of separating off the early-expended fuel tanks from the satellite-carrying rocket without causing any radical change in flight characteristics or direction.

The answer is an explosive bolt that will be fired automatically and make the separation cleanly.

• **On the Way**—Still in the developmental stages, but potentially a big business application of packaged power is its use in cutting or splicing cable. Instead of hydraulic means, the reasoning goes, you should be able to use a small cartridge that, when ignited, cuts and crimps the cable in one operation.

Other slower developing or still experimental uses for cartridges:

• To activate an emergency power supply for radio signal transmission. Explosion of the cartridge in a small turbine (of special design) permits radio operation for a full minute.

• For driver safety programs, to

measure students' reaction time. One cartridge explodes and fires white chalk onto the highway when the driving instructor tells the student to brake the car. Another cartridge does the same when the car stops.

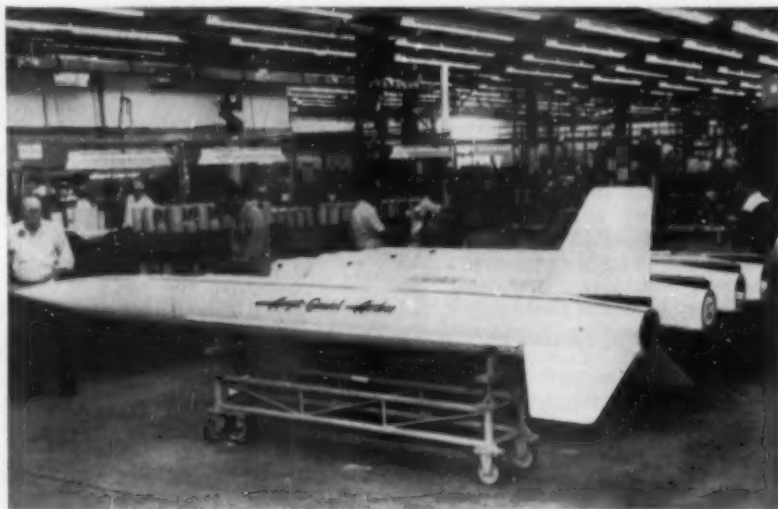
• In hydraulic jacks for cars.  
• To inject plant fertilizer into trees, or pollenize them.  
• To set off fire extinguishing equipment.

• To clean out slag from forges, or remove the forged material.

• **Shapes and Sizes**—The list of possible new applications for the century-old cartridge—or shotshell business, as it calls itself—is almost endless. Yet there's necessarily a long research row to hoe before producers can hope to reap the rewards of their labors. The reason is this: For virtually every different application, you have to come up with a new type of cartridge.

Those already in use range in size from the small 22-caliber shell seen in shooting galleries to a jet engine cartridge starter about the size of a cantaloupe. Each is designed to handle a particular job—and as applications have broadened, there's been a notable shift away from conventional shotshell design.

What tomorrow's packaged-power cartridges will look like is anybody's guess. But there's little doubt that the industry spawned as an imaginative projection of the old shotshell business will come up with some real Buck Rogers innovations for a multitude of uses.

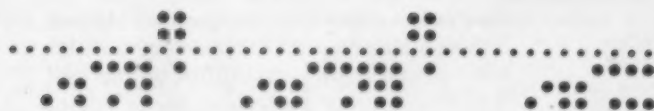
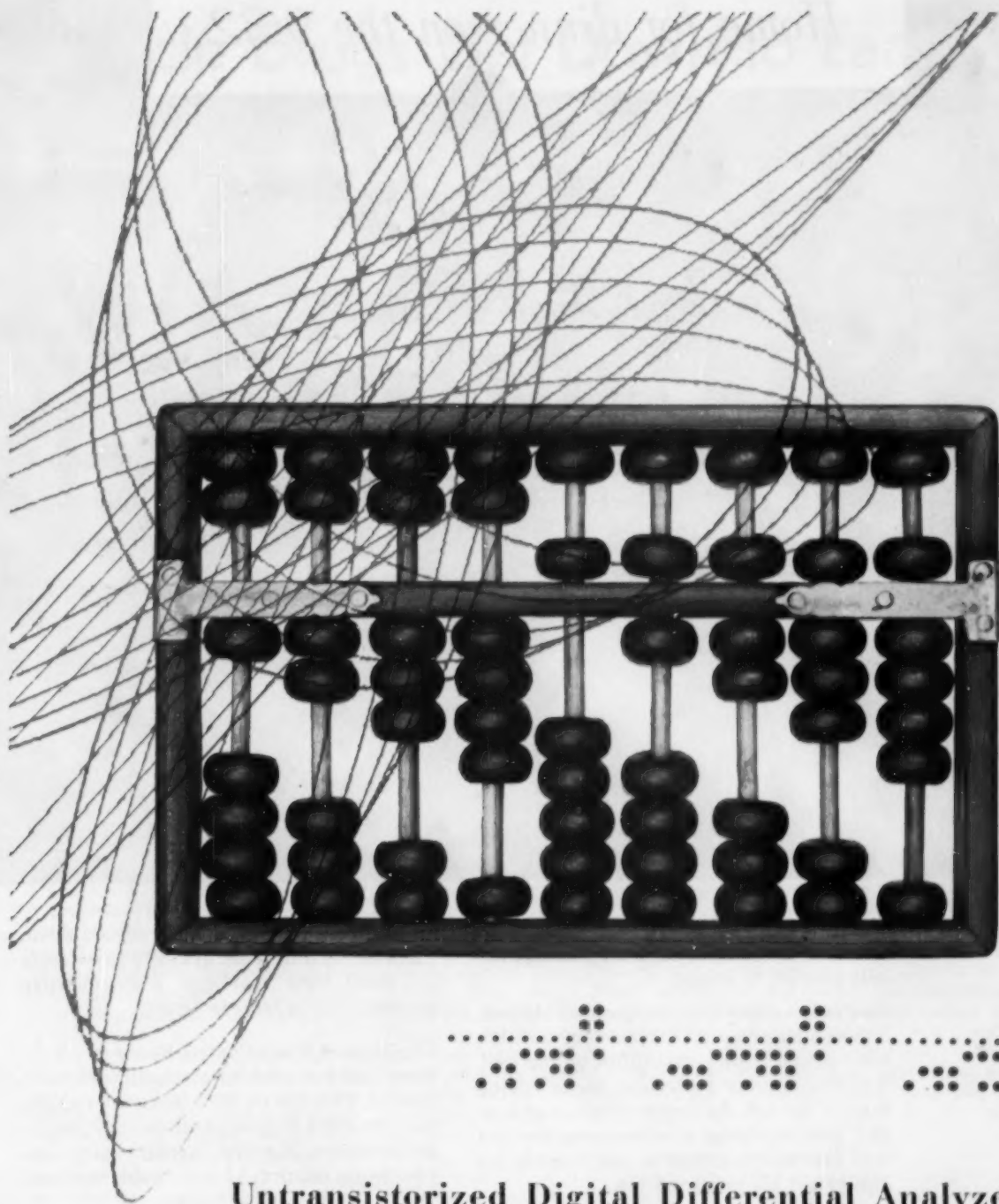


## Getting in Line to Probe the Upper Air

A quiet corollary of the headline-grabbing earth satellite Project Vanguard—which recently spilled over into an inter-service feud (BW—Oct. 6 '56, p31)—is this work at Aerojet General Corp.'s plant at Azusa, Calif. Aerojet

is pledged to turn out over 60 Aerobee and Aerobee-Hi upper air research vehicles for the International Geophysical Year that starts next July 1, and is already well along on its production schedule for the sleek, white vehicles.





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# Miracle Drugs Get Down to Earth

● New developments coming out of the laboratory are pushing antibiotics into the big industry class.

● The search for combined drugs that can control resistant bacteria is gaining ground.

● Acceptance of antibiotics as a food preservative is growing fast.

The antibiotics industry, still a comparative youngster in terms of years, seems to be fast outgrowing the short pants' stage. In Washington (D.C.), last week, the Fourth Annual Symposium on Antibiotics highlighted two significant developments:

- The search for synergistic combinations of drugs—drugs that can control any number of various bacteria at the same time—is gaining ground.

- The use of antibiotics to help preserve food is just around the corner.

- **Growth**—Because of the relative youth of the industry, the past year's technical advances are noteworthy. A scant 14 years ago, dollar sales of antibiotics were zero. Last year, total sales reached \$300-million; this year, manufacturers expect sales to top \$350-million.

In 1943, the first year that antibiotics were produced commercially in the U.S., only 29 lb. of penicillin were turned out. Today, crystalline antibiotics are produced at the rate of 1.5-million lb. annually.

- **Problem**—From the standpoint of public health benefits, this staggering rate of production is an unmeasurable blessing. But from the standpoint of the technical problem that it has presented to researchers, it has been a real hardship.

The problem that scientists have been facing in recent months is this: As antibiotics have been made obtainable in quantity, the number of people who have not already been treated with one or more of them has shrunk to a small percentage of the population. At the same time—along with the development of streptomycin, penicillin, and later antibiotics—has come the emergence of antibiotic-resistant bacteria.

The fact that these disease-resistant bacteria appear to develop in patients who are already debilitated, diabetic, or chronically ill, is a development of particular concern to doctors.

- **Initial Approach**—In the early days, when resistant bacteria began to pop up, most laboratories were still concentrating on finding single narrow-spectrum drugs. The result was a whole se-

quence of new drugs, each designed to answer a specific health problem. But as the years rolled on, the resistant strains increased faster than the laboratory could turn out new antibiotics. So, the trend in research has turned to a search for new drugs that would control these resistant strains. Medical men generally refer to the past few years as "the era of broad spectrum therapy."

To some degree, the millions of dollars poured into the search for a good all-purpose broad spectrum antibiotic bore fruit. In the course of their experiments, researchers turned up a number of new drugs and—perhaps more important—increased their knowledge concerning the miracle drugs. However, the ideal broad spectrum antibiotic eluded them.

- **New Tack**—Realizing that their quest is perhaps technically impossible, laboratories recently have been shifting their tack. Now they're turning toward combinations of antibiotics, particularly those that are synergistic—which in combination tend to increase each other's efficiency.

One such drug, a combination of two antibiotics, just coming out of clinical study is Chas. Pfizer & Co.'s Pen-M. This drug, Pfizer claims, chemically combines into a single substance two potent antibiotics—penicillin and oleandomycin. (Oleandomycin is named after the oleander bush, one of its sources.) The resultant Pen-M has the activity both in the test tube and in experimental animal infections of both its components. In addition, it seems to have the ability to strike against the penicillin-resistant as well as penicillin-susceptible staphylococci.

Oleandomycin apparently can be used successfully in combination with other antibiotics. Pfizer is trying it in combination with tetracycline (one of the most successful results of the hunt for a broad spectrum antibiotic) and with oxytetracycline. Oleandomycin also is reported to be useful in combination with neomycin to reduce pre-surgically the numbers of both gram-positive and gram-negative bacteria in the intestinal tract.

Combinations of neomycin and novobiocin, neomycin and nystatin, neomycin and bacitracin, neomycin and chloraquinadole, neomycin and erythromycin, and neomycin and sulfathalidine also are in advance testing stages. These give promise not only of extending the activity of the member drugs, but also of providing a marked cumulative antibacterial action.

- **Food Processing**—In addition to the official recognition of "combined therapy" in antibiotics technology, last week's forum—which was sponsored by the Food & Drug Administration—highlighted another potentially lucrative development. Speakers and delegates from 25 states and 11 foreign countries hailed the approach of the age of antibiotics for the multibillion-dollar-a-year food processing industry. This week, FDA allowed a second major supplier to enter the antibiotic food preservative business. After months of cautious mulling over the scientific pros and cons, FDA authorized Pfizer to sell Biostat (oxytetracycline) to extend the storage life of poultry.

- **Round I**—The move is sure to touch off the opening round of a hot fight between Pfizer and American Cyanamid Co. Last year, American Cyanamid won approval for its poultry preservative Acronize, for first place in the food processing sweepstakes.

Pfizer has been lining up customers for nine months, in anticipation of FDA's approval of its Biostat. It plans to start delivery to poultry producers late in November.

Cyanamid, which for nearly a year has been marketing Acronize (chlorotetracycline) as a preservative for uncooked poultry, has been attempting to exploit its time advantage in recent months, however. It has signed up a claimed 150-odd poultry producers under franchise agreements that give Cyanamid control over how its Acronize is applied in the processors' plants. Reason for this is to make sure that processors comply with the law allowing no more than seven parts per million of Acronize to be present in uncooked, undressed poultry as it leaves the processing plant.

- **Short Cut**—Pfizer, to try to offset its delayed start, will bypass franchises in favor of a more open and direct sales route. According to J. D. Langlois, head of Pfizer's Food & Beverage Dept., Biostat will be offered to customers in virtually the same manner as any other bulk chemical.

With each can purchased, the customer will get a special spoon for measuring out the desired concentration for



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SHORTEST RAIL ROUTE BETWEEN NEW YORK, BUFFALO, AND THE WEST

**" . . . Biostat-dipped harpoons have been used to spear whales by Norwegian whale hunters . . . "**

STORY starts on p. 139

his poultry bath solution. But Pfizer will impose no restrictions of its own, beyond insisting that customers abide by FDA's labeling requirements. Instead, the company is banking on a non-intervention policy and "convenience appeals" to keep the legal situation in hand.

Whether such a hands-off policy will be successful is a moot question. Industry observers say that launching Biostat in such a manner is sure to set the pattern for other antibiotic producers who enter the food processing market, however. These observers further insist that it is certain to step up the demand for FDA approval of other antibiotics, produced by other companies, for broader use.

- **Starting Gate**—Both Pfizer and Cyanamid are hot after the initial market advantage when FDA lets down the bars for broader use of antibiotics by the food industry. Cyanamid scored first in Canada, where the Food & Drug Commission recently gave the green light to Acronize as a fish preservative. Pfizer has filed a similar application for use of Biostat in preserving fish in Canada.

Both companies have already talked with FDA preparatory to filing application for fish-preservation approval in the U.S. and both are feverishly pressing research on animal meat preservation.

- **Stakes**—As the tension mounts, lighter examples of the jockeying for position in the antibiotics-for-food preservation race continue to pile up. For example, Cyanamid hired a Washington (D. C.) public relations company to spread the word on Canadian tests of Aureomycin to preserve whale meat. Pfizer immediately countered with a handout—embellished with on-the-spot photographs—telling of similar results achieved by Norwegian whale hunters equipped with Biostat-dipped harpoons, billed as the biggest hypodermic needles on record.

Beneath all the banter, however, is a note of grim purpose. One conservative estimate places the annual sales potential for antibiotic food preservatives at upwards of \$20-million in the U.S., and \$200,000-million per year abroad.

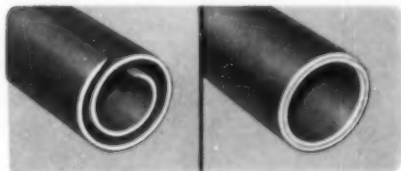
This potential food processing market for antibiotics, when considered in addition to the broadening medical use of such drugs, could be enough to push antibiotics into the class of big business. **END**



Rugged Cummins Diesels give these huge Mack dump-trucks 300 hard-working horsepower for hauling 30-cubic-yard loads of ore down Cerro Bolivar, Venezuela's iron mountain. Mack uses Bundyweld for brake and hydraulic lines; Cummins for vital fuel lifelines.



## Venezuela's mighty mountain-movers rely on lifelines of Bundy Tubing



Bundyweld is the only tubing double-walled from a single steel strip, copper-bonded through 360° of wall contact. Its unique structure makes it amazingly strong and highly versatile.

Bundyweld is uniformly smooth, inside and out; is remarkably resistant to vibration fatigue. Lightweight, it has unusually high bursting strength, can be fabricated easily, bends to shortest radii.

**H**AULING IRON ORE down a mountain all day is a rugged, truck-killing job. That's why every component on these Mack trucks and their Cummins Diesels must be extra-tough, extra-reliable. And that's why Cummins Engine Company, Inc., and Mack Trucks, Inc., like so many other manufacturers, specify lifelines of Bundyweld® Steel Tubing.

The exclusive manufacturing process shown at the left is the big reason Bundyweld fuel, oil, brake, and hydraulic lifelines are used in 95% of today's cars . . . in an average of 20 applications each. It also helps explain why Bundyweld Tubing is the standard of the refrigeration industry.

**Designers the world over** constantly find new uses for Bundyweld Tubing—in both fluid transmission and mechanical applications. If you need tubing with high strength, ductility, and low cost . . . it will pay you to use Bundyweld Tubing and Bundy's expert engineering service. Phone, wire, or write, today!

*There's no real substitute for Bundyweld Tubing*

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## RESEARCH BRIEFS

A preview of Antarctica was given last week to the U.S. scientists scheduled to spend 18 months at six stations around the South Pole. The week-long orientation course, designed to show them what their life will be like, was held in the distinctly sub-polar climate of Davisville, R. I.

The hottest "hot lab" in the world will be completed by the yearend by the Southwest Research Institute. The \$625,000 aviation lab at San Antonio covers 11,110 sq. ft., is designed to handle 200,000 curies (a measurement of radioactivity) of cobalt for research on engines, fuels, and lubricants.

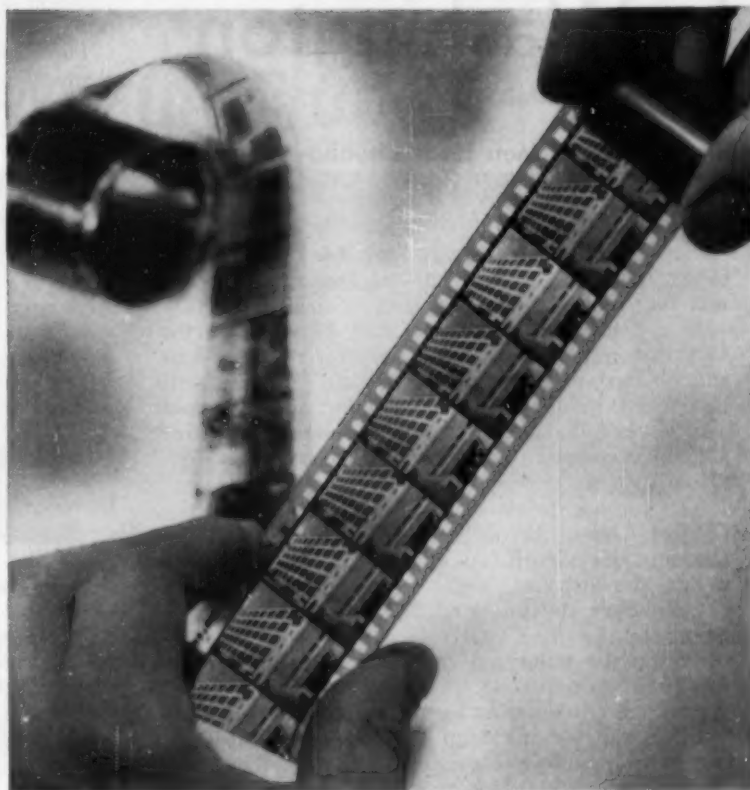
The 1956 Nobel Prize for Medicine will be shared by a German doctor who discovered a method of diagnosing heart and lung ailments and two U.S. physicians who developed it. The catheterization method of heart research was evolved by the German, Werner Forssman, as a young doctor in Berlin in 1929. It was brought to near perfection by Prof. Dickinson W. Richards and the French-born Dr. Andre Courmand, who have been associates at Columbia University for 25 years.

The \$1-million Air Force nuclear lab near Dawsonville, Ga., will be built by Southeastern Construction Co. The building will be the largest announced so far in the facilities being developed jointly by the Air Force and Lockheed Aircraft Corp.

Carbide and Carbon Chemicals Co. will make a start this fall on a multi-million dollar program to build new research and development laboratories at South Charleston, W. Va. The facilities will be completed by mid-1958.

Metals many times stronger than those commercially available today were brought a step closer last week by the announcement of a new research technique developed at General Electric's Research Laboratory at Schenectady, N. Y. Involving the use of an etching solution and crystals of lithium fluoride, the technique enables scientists to "see" atomic imperfections (called dislocations), which are believed to hold the key to the strength of metals.

Air Force research leading to development of new antioxidants for synthetic lubricants used under high temperatures is described in a new 5-part report just released to industry through the Office of Technical Services, U.S. Dept. of Commerce.



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# In Washington

• • •

## Small Business Men Hear Eisenhower Wants Congress to Help Them More

Pres. Eisenhower personally took the lead this week in the Republican drive to deflate Democratic charges that the Administration is neglecting small business.

In a letter to a New York State businessman, the President recited what his Administration had done and planned to do for small business. What's more, he implied, though he did not promise, that he would ask the next Congress to drop the tax on the first \$25,000 of corporate income from 30% to 20%. Above \$25,000, the tax is 52%.

The cut was recommended in August by a special Cabinet Committee on Small Business. Authoritative estimates are that it would cost the Treasury \$600-million the first year.

Eisenhower also indicated that he would seek legislation to:

- Raise the ceiling on security issues exempt from full SEC registration to \$500,000 from \$300,000.
- Stretch out the time for paying federal death taxes when estates are made up largely of investments in closely held, family-type companies.
- Put corporations that have only a few stockholders on the same, more favorable tax terms as a partnership.

• • •

## Major Airlines Soon to Be Flying On Own Wings Without Subsidies

Federal subsidies to U. S. airlines, according to the Civil Aeronautics Board, are dwindling to the point that by fiscal 1958—the 12 budget months beginning next July 1—all 12 domestic trunk lines will be subsidy-free. So will American flag transatlantic and transpacific operations.

The CAB estimates that fiscal 1958 subsidies will total \$44.5-million, a drop of \$19.5-million since fiscal 1954, when subsidy and mail payments were first calculated separately.

Most of the money, \$26.8-million, will go to 13 small local service carriers. Other pieces of subsidy pie will go to: helicopter operations, \$4-million; Alaskan operations, \$7.4-million; Latin American operations, \$5.9-million, and Hawaiian airlines, \$283,000.

• • •

## Strong Nickel Reserves Enable ODM To Plan Halt in Stockpiling

It's the beginning of the end for government stockpiling of nickel, thanks to "a strong position" in military and defense reserves of the metal. Last week, the Office of Defense Mobilization released to industry

5-million lb. previously scheduled for the defense stockpile in the last quarter of 1956.

This makes almost 80-million lb. diverted into private channels during the year.

ODM says it will also free all nickel slated to go into stockpiles and the Defense Production Act inventory in the first quarter of 1957.

To balance supply with mounting demand, defense planners contemplate new production incentives, including:

- A raised tax write-off goal.
- A new program to help defray "unusual development costs," first discussed as bonus prices on government purchases. However, ODM is now considering direct loans to nickel producers.

• • •

## Independents and Majors Tangle In Hearing on Oil Import Cuts

Has the time come for compulsory government restrictions on oil imports? Pres. Eisenhower's Cabinet Committee on Fuel Policies said so last week (BW—Oct. 20'56,p36).

This week, Defense Mobilizer Arthur S. Flemming wrestled with the question in a Washington hearing at which both the U. S. independent oil producers and the major oil companies were represented. If his answer is "yes," the decision will then be up to the President.

In 1946, totals of foreign crude imports were 5 bbl. for every 95 bbl. produced at home. This year the ratio is 20 bbl. foreign to 80 bbl. domestic.

The majors' contention boils down to this: Since the U. S. has only 15% of the world's estimated crude oil reserves, against 50% of global consumption, their interests in foreign fields are essential to national well-being.

The government has authority to limit these imports if, as the independents maintain (and the Cabinet Committee agrees), they are a menace to national security by injuring home industry.

• • •

## Sen. Byrd Urges Flemming Not to Act on Fast Write-Offs

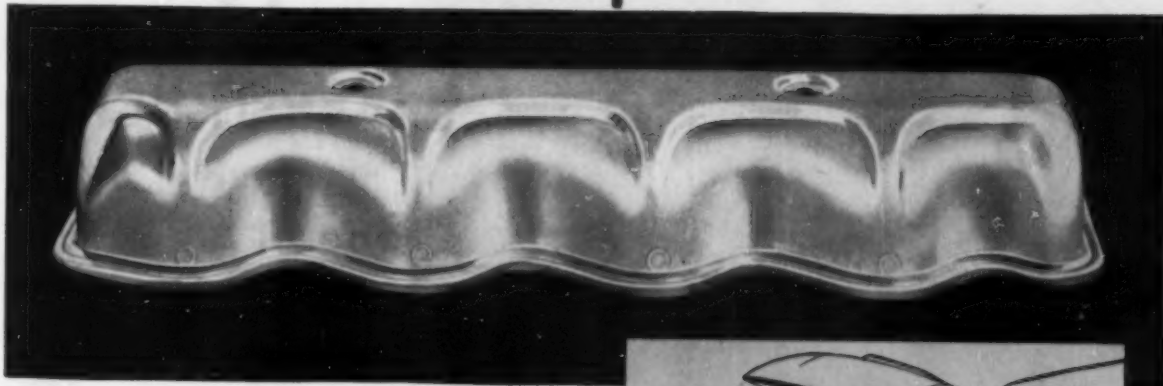
Rapid tax amortization came under fresh attack this week—from Capitol Hill. Sen. Harry F. Byrd (D-Va.), chairman of the Senate Finance Committee, advised Defense Mobilizer Arthur S. Flemming against immediate action on pending industry requests for fast write-off certificates, which would let them charge off the cost of new plants against taxable income in five years.

Byrd, who is directing a Congressional study of the program, tipped his hand by saying: "It is my opinion that under present peacetime conditions, such special privilege can be justified only in exceptional and rare cases."

Although the Office of Defense Mobilization is not bound to follow the Senator's advice, indications are that it will. Most experts feel the Byrd letter foreshadows a determined drive in Congress next year to abolish rapid amortization.

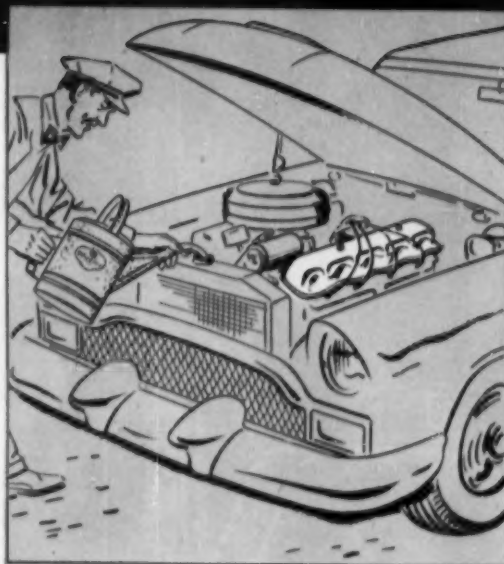


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# 13

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General Electric has a fleet of 13 such trucks at this installation and is adding 5 more. This new concept in appliance handling completely eliminates the use of pallets—which would have meant an additional investment 8 or 9 times the cost of the trucks. The absence of forks and pallets makes possible stacking one tier higher and reduces aisle space required, thus increasing storage capacity more than 25%.

The trucks have a total lift of 242 inches. Appliances are handled 4 per load for the bottom 2 tiers, and 2 per load for upper tiers. Gravity sliding back-rest aligns loads perfectly with tiers below and protects them from impact damage. Side-shifter butts loads snugly against adjacent stack for lateral alignment.

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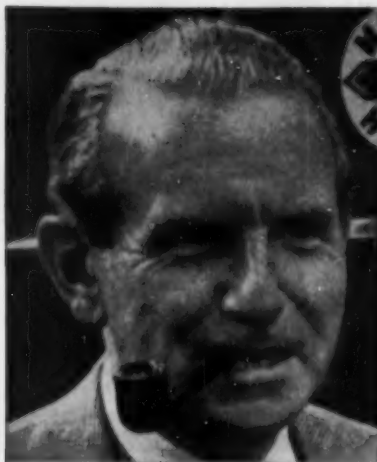
A subsidiary of Otis Elevator Company

AE-6

**New management at Massey-Harris-Ferguson, Canadian farm machinery maker, drops old diplomatic touch in its approach to international selling.**



TYCOON E. P. Taylor pushes out . . .



CONSERVATIVE James S. Duncan, Jr.

## Changing the Face of a Giant

With a switch of leadership, one of North America's oldest—and one of Canada's largest—companies has become a laboratory for a test of management concepts. The issue at the Toronto headquarters of Massey-Harris-Ferguson, Ltd., is: Can shrewd financial management replace the company's conservative, striped-pants selling?

The test started in July. That was when James S. Duncan, Jr. (above, right), for 15 years the boss at Massey-Harris, was pushed out of board chairmanship by E. P. Taylor (above, left) the country's best-known financial tycoon.

• **One-Man Show**—Taylor, whose Argus Corp. (BW-Jul.13'56,p49) is the largest single stockholder in Massey-Harris, thought Duncan was running the company too much as a one-man operation. Duncan, a man who made himself almost as much a diplomat as a businessman, hired cultured multi-lingual men like himself to run Massey-Harris-Ferguson's 16 owned or leased plants around the world. He wanted them to be able to hobnob with the world's statesmen. He believed his long experience at the top of the company—from 1934 through 1956—entitled him to a blank check from the company directors.

In this, he had tradition on his side—the company had always been run by Duncan, by his father, and by the Massey family before them, as a personal fief. He had sales on his side, too—under his leadership from 1941 through 1955, they increased fivefold. He had a good argument for operating his headquarters like a miniature foreign office—of MHF's \$369-million in sales last year, more than half were made outside North America. Further-

more, there's a good chance that a large part of MHF's potential market for farm implements in the next few years will be in the underdeveloped countries and possibly in the Communist bloc, where a diplomatic touch might help.

• **Decline**—But there's another side to the story. After an immediate postwar spurt in sales, MHF has made no spectacular gains. If it weren't for Massey-Harris' merger with the Harry Ferguson companies in 1954, MHF wouldn't have done so well as its competitors. That merger brought Massey-Harris sales up from \$100-million to \$150-million a year.

But the merger gives MHF no diversification at a time when profit margins of the whole farm implement business in North America are slipping. The average margin was 4.8% of sales in 1952; in 1955, it was down to 2.6%. And while MHF's big U.S. competitor, International Harvester Co. (more than \$1-billion in sales last year) long ago diversified into power equipment and trucks, MHF has done nothing more than make a stab at producing office machinery.

Meanwhile, MHF under Duncan consistently followed a strongly conservative financial policy, piling up large cash reserves as insurance against bad times on the farms.

It's because of the record on this side of MHF's ledger that Taylor moved in on Duncan. Now Taylor, as chairman of MHF's executive committee, and his associate W. E. Phillips, installed as board chairman, are switching the company's traditional way of doing business. They're certain they can hire as many cultured, multi-lingual diplomat-salesmen as they might want. And

they're just as sure that what MHF needs at the top is financial wizardry—which they'll supply.

### I. End of An Era

The switch at MHF marks the end of an era in a corporate history that stretches back almost as far as Canada's own industrial history. MHF's story is also the history of one of Canada's proudest families, the Masseys. Daniel Massey, founder of the clan was a loyalist who stood by the British during the Revolutionary War. He moved to Ontario after the war.

• **Origin**—His son started the New Castle Foundry & Machinery Manufactory in 1847, introduced the first crude farm machinery into Canada.

Massey's operation developed right along with the heady growth of U.S. and Canadian agriculture through the last half of the 19th Century. In the last decade of that century, the outfit became Massey-Harris through one of a quick series of five mergers with Canadian farm implement makers. By the early 1900s, exports of farm machinery to Europe were adding to Massey-Harris' profits. Half of these European exports of farm implements were going to Russia, and Massey-Harris even set up a sales and distribution organization there.

• **European Ventures**—The first of the tough problems of doing international business in the modern world came after the end of World War I. Tariff barriers in Europe were built up so high it seemed that Massey-Harris would lose its market there. The company got around the barriers by building its own manufacturing plants in



# Do You Use or Make Any of the Products in This Listing?

These industries are all repeat users of **Tru-Lay Push-Pull Controls**

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Aircraft & Parts	Heating Equipment
Automobiles	Hydraulic & Pneumatic Equipment
Bakery Equipment	Ice Cream Making Machinery
Boats & Ships	Laundry & Dry Cleaning Equipment
Bulldozing Machinery	Leather Working Machinery
Brewing & Distilling Equipment	Lumber & Saw Mill Machinery
Business Machines	Marine Equipment
Buses & Motor Trucks	Materials Handling Equipment
Candy Making Machinery	Metal Mining Machinery
Canning Machinery	Metal Working Machinery—Machine Tools
Ceramics Machinery	Military & Naval Equipment
Chemical Processing Machinery	Motorcycles & Bicycles
Coal Mining Machinery	Nuclear Science Equipment
Coin Operated Machines	Oil Refinery Equipment
Construction Machinery	Ordnance
Dairy Products Machinery	Packaging Machinery
Dental & Surgical Equipment	Paint Making Machinery
Die Casting Machinery	Paper Making Machinery
Diesel Engines	Photo Equipment (manufacture)
Drinking Water Coolers	Plastics Fabricating Machinery
Electrical Appliances	Plastics Producing Machinery
Electrical Generating Equipment	Power Plant Equipment
Electrical Machinery	Printing & Binding Machinery
Electrical Transmitting Equipment	Quarrying Machinery
Electronic Equipment	Radio & Television (manufacture)
Elevator Control Panels	Railroad Equipment
Fire Protection Equipment	Road Building & Maintenance Equipment
Food Processing Equipment	Rubber Processing Equipment
Forging Machinery	Safety Locks on Fuse Panels
Foundry Equipment	Sanitation Plumbing (Floor Valves)
Gas & Oil Production (Test Stands)	Shoe Machinery
Glass Making Machinery	Steel Mill Machinery
	Telephone & Telegraph Machinery
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	Welding Equipment
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or in its inclusion as a component of the product you manufacture, we would welcome your request for our **DATA FILE** for your further study.

Because **TRU-LAY PUSH-PULL CONTROLS** are "solid as a rod but flexible as a wire rope" their use has simplified the design and improved the operation of literally hundreds of products. This is indicated by the list of repeat users.

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**NEW CHAIRMAN is W. E. Phillips.**

Europe. Then came 1929, and the Depression.

## II. Diplomatic Boss

For Massey-Harris, as for so many others, it was a near catastrophe. In 1934, the company's Toronto headquarters recalled James S. Duncan, Jr., from the manager's post at Massey-Harris' Argentine company. He took over complete operation on condition he be given a free hand to try to save the company's U.S. operations.

He found a plan for retrenchment already prepared. It included withdrawal from Europe, dismantling one plant in the U.S. and selling another.

• **Year's Test**—The directors gave Duncan a year in which to see what he could do. And in less than a year, Massey-Harris' U.S. sales began to climb. Soon, sales in the company's other major markets, Europe and South America, headed up. In the end, Duncan managed to save the whole Massey-Harris operation. The value of what was saved can be gauged from MHF's own statistics: It reckons that in the 20 years since 1936 it has sold \$1.5 billion worth of farm machinery in the U.S. alone for a net profit of \$38-million.

After World War II, Duncan pulled off just as big a success in Europe. He quickly foresaw that dollar-short Europeans couldn't buy North American exports. In 1946, Massey-Harris set up a manufacturing plant in Manchester, England. Today, output from MHF's British plants accounts for 86% of all farm equipment sold in Britain and Eire, enables MHF to sell in Spain, Turkey, Greece, the Middle East, Scandinavia, and elsewhere in the sterling currency bloc.

• **Biggest Coup**—The biggest coup of Duncan's whole career at Massey-Harris came in 1954, with the merger of the

company's worldwide operations with those of the Harry Ferguson companies. Ferguson, an eccentric inventor, took a personal shine to Duncan, and in the merger collected 1,805,055 shares of Massey-Harris stock, with a market value of about \$16,385,000. For this, Massey-Harris got:

- A U.S. plant and a research center at Detroit, plus a U.S. dealer network of 2,000 members.

- Companies in Britain, Australia, South Africa and France, and established dealerships in Europe, Latin America, and Japan.

- Ferguson assets of \$16.5-million—\$10.5-million in the U.S.—although Ferguson's policy of letting someone else do his manufacturing meant Massey-Harris got only \$1.7-million in fixed assets.

- A short-lived contract under which Ferguson would advise the new firm. He canceled it a year later when he sold his interests, cut his connections with MHF.

Ferguson machinery gave MHF a big sales boost. Ferguson's revolutionary light tractor design is popular around the world. But integrating the two empires has posed problems. Massey-Harris has always built its own equipment, while Ferguson, except for the U.S. market, had always let others handle the job. Thus, Ferguson tractors are built in Britain in the Standard Motors plant at Coventry, the largest tractor factory in Europe.

## III. The New Management

Duncan's coup in bringing in the Ferguson empire wasn't enough to stem criticism from the company's biggest single stockholder, Argus Corp., and its boss, E. P. Taylor.

Taylor, a director of MHF since 1942, hadn't got along personally with Duncan for years before the showdown in July. And when that came, Taylor brought his associate in Argus Corp., W. E. Phillips, into MHF where he has been appointed board chairman.

Since the switch, Taylor and Phillips have left actual day-to-day operation of the company in the hands of a long-time MHF officer, A. A. Thornbrough, the executive vice-president.

Neither Taylor nor Phillips have said exactly what they plan to do with MHF. But some changes already hint the direction of the new management.

- **Committee Operation**—MHF is no longer a one-man operation. Since Duncan resigned, a central coordinating committee that meets every Tuesday has been set up at the Toronto headquarters. All head office executives or their deputies attend this, discuss together a preplanned agenda of company problems. Taylor and Phillips felt that in an industrial empire as complex



# A Report from the **STEEL CENTER** of Mid-America



## GRANITE CITY STEEL GROWTH PERMITS RENEWED PRODUCTION OF CULVERT SHEETS, ADDS SUPPORT TO ROAD-BUILDING PROGRAM



*John Marshall,  
Chairman of the  
Board and Chief  
Executive Officer,  
tells how Granite  
City Steel expansion  
yields a new product  
to meet pressing  
U. S. needs.*

"Next year, as the nation's multi-billion dollar highway program swings into action, demand for road-building materials will be the greatest in history. Can U. S. suppliers meet this demand? Granite City Steel will help. Starting immediately, we're using newly expanded mill facilities to produce galvanized corrugated culvert sheets!

"These sheets are fabricated into corrugated culvert pipe and next year the nation will use over 200 thousand tons of metal culvert. Here's how: On most construction jobs, the first important problem is drainage . . . and the second is *more* drainage. Galvanized corrugated culvert pipe is one of the best answers to highway drainage because it has a resilient strength that resists breakage from freezing, thawing, heavy fill and pounding traffic. It's economical, requires minimum excavation and upkeep and it won't abrade or disjoint.

"Granite City culvert sheets are manufactured to specifications of the American Association of State Highway Officials and are approved by State Highway departments throughout the Midwest and Southwest. Soon, these sheets will be used to provide drainage pipe along thousands of miles of new highways in this area. It's another reason why the future of Mid-America looks good to us."



After forming and riveting by a culvert manufacturer, each Granite Copper Steel culvert sheet forms a 2-foot length of corrosion-resistant pipe.



Formed into pipe, culvert sheets provide quick, permanent drainage for roads, underfill, bridges, airports, rail lines, playgrounds, subdivisions, etc.

**COLOR MOVIE AVAILABLE!** "Steelmakers to Middle America"—a half-hour movie showing how steel is made, is available for free group showing. Write for bookings: Public Relations Dept., BW-613, Granite City Steel Co., Granite City, Ill.

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"Yogi seems to be enjoying his work more these days!"

insulate with 

**FORTY-EIGHT INSULATIONS, INC.**  
AURORA, ILLINOIS



### Self-Dumping Hoppers speed waste handling operation

"Time was saved and expenses were cut," says Raybestos-Manhattan, Inc., when Roura Self-Dumping Hoppers were adopted for handling waste. In their Passaic, N. J. plant the many grinding operations performed on rubber, asbestos and abrasive products create dust which is sucked into giant dust separators. Caster-mounted Roura Hoppers under the separators receive the dust for disposal. When full, a Hopper is picked up by a lift

truck, and carted to a waiting dump truck. The operator flips a latch and the Hopper automatically dumps itself, rights itself, locks itself. The mobile, maintenance-free Hopper is then ready for another load.

Roura Self-Dumping Hoppers are saving time and cutting expenses in many industries . . . handling hot or cold, wet or dry bulky materials.

**ROURA**  
*Self-Dumping*  
**HOPPER**



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**ROURA IRON WORKS, INC.**  
1407 Woodland Ave., Detroit, Michigan

as MHF, such a committee was essential, and they established it as soon as they took charge.

• **Diversification**—Two months ago, MHF's Racine (Wis.) plant started some diversification. Now it's making construction machinery. It is concentrating on small and medium-sized equipment. The Racine plant makes the tractors; Mid-Western Industries, Inc., of Wichita, makes the earth-moving attachments for the tractors. And MHF puts the two together and distributes the package.

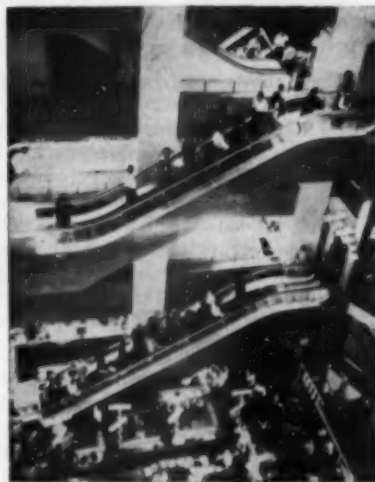
Through the Racine diversification, MHF hopes to cash in on the U.S.'s national highway building program.

• **What's Ahead**—But whatever other major switches Taylor and Phillips might have in mind, it's generally felt in Toronto that it will take them a year, possibly two, to carry them out.

Meantime, MHF will remain closely bound to the farmer's prosperity. And since the farmer is pinched these days, competition among the farm implement builders is tough, and getting tougher.

Taylor and Phillips have inherited from Duncan two big advantages in this competitive battle. MHF plants around the world are in the middle of a thorough modernization program. And new ideas keep coming from the Detroit research center MHF bought from Ferguson. Combined, these two factors should make MHF's manufacturing processes smoother and cheaper within the next two or three years.

It's in this interval that Taylor and Phillips will face their biggest test.



### Sightseeing, Too

Newly built escalators in this big Tokyo department store do double duty. They give customers an easy ride from floor to floor. But—placed smack in the open with no walls to hide the view—they also give customers a bird's-eye look at the merchandising merry-go-round on the store's first floor.

# **AUTOMATION**

## ***has a heart of COPPER!***



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SEE CASE HISTORY ON FACING PAGE



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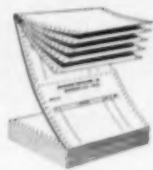


**SALES OFFICE**—A new invoice containing back-ordered items is prepared and data is wire-transmitted to the warehouse. Here a new Shipping set is prepared and filed until the new stock is received. The system has provided faster work flow with accuracy in transmitting information.

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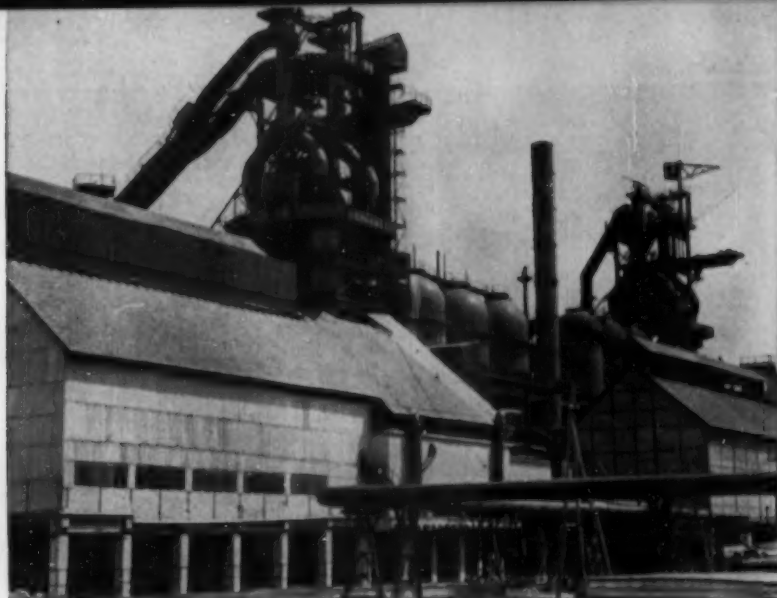


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Moscow's latest propaganda piece—a modern steel mill at Bhilai in central India—will be similar to Russia's own up-to-date plant at Rustavi (right).



## Reds Play a Trump Card in India

By all present indications, Russia is making good its promise to build an integrated steel mill for the Indian government.

The \$234-million mill slated for Bhilai in central India is Russia's largest project—outside the Communist orbit—for giving technical aid to underdeveloped countries.

As such, Moscow appears to be putting its best foot forward. According to information studied by U. S. and British steel experts, the 1-million-ton capacity mill will be of "orthodox" design, but definitely up-to-date in the details of its construction. The Russians repeatedly state it will be similar to the Trans-Caucasian Metallurgical Plant at Rustavi (above), not far from Tiflis. This plant, started in 1941 and completed since the war, is one of Russia's most modern steel mills.

• **Breaking Ground**—At the same time, 26 Russian engineers at the mill site in Bhilai are quietly and methodically preparing the groundwork for the arrival next year of the mill's major components. The supervisory team, headed by Nikolai Kratenko, lives in a \$400,000, air-conditioned building in the nearby town of Drug, works a 13-hour day—training Indians, studying blueprints, and arranging for deliveries of machinery and equipment.

• **Russian Bid**—There's little doubt Moscow looks on the Bhilai mill as a trump card in its campaign to woo underdeveloped—and uncommitted—countries. Already, under the Indo-Soviet agreement signed in February, 1955, the Russians have tied their economy closer to India by accepting rupees in payment for the \$120-million worth of equipment they will deliver to Bhilai. The Russians can—and prob-

ably will—use the rupees to buy Indian agricultural and manufactured goods.

But besides this, the Bhilai mill, if erected along present designs and on schedule, will help convince Asian countries—and other countries, as well—that Russian offers of technical assistance are not merely propaganda.

• **Skeptics**—The project has taken over two years to get started. At first, the proposal to build the mill looked like a page right from the Khrushchev-Bulgarian handbook of propaganda schemes. Western observers doubted that Russia would be willing to put its steelmaking equipment and techniques in full view—in India—where they could be compared with U. S., British, and West German steel mills. This skepticism stemmed primarily from the fact that although Russian steel technology is rapidly coming abreast of the latest Western steel-making methods, it reportedly is still 10 years behind in such phases as rolling mill operations. Western observers also doubted whether Russia could afford to cut into the planned expansion of its own steel industry—by some 3-million to 4-million tons a year—in order to deliver equipment to India.

Now, with the Bhilai mill project going full steam ahead, two things are clear. The mill's design is not just a chip off the Communist bloc; instead of secondhand equipment cannibalized from Russia's East European satellites, the equipment will be newly designed and freshly built. Second, the Russians mean business in getting the mill put up in record time.

• **Modern Plant**—Originally, the Indian government, suspecting that the proposed mill would be a mishmash of pre-World War II equipment, hesi-

tated to take up Russia's offer. By early 1955, after inspecting Russian mills similar to the one proposed for Bhilai, the government gave the go-ahead signal—and for good reason.

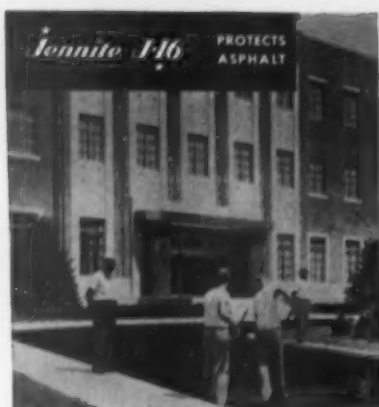
The mill, as judged by Western steel experts, is nothing to embarrass either the Russians or the Indians. In general outline, it will cover about 2 sq. mi. Its major components will include three batteries of 65 coke ovens, three blast furnaces of 23-ft. to 27-ft. diameters each to produce 1,000-1,200 tons daily, and six 250-ton open hearth furnaces. Rolling-mill equipment will consist of a 45-in. blooming mill that starts with seven-ton ingots, a 36-in. structural mill designed to roll a 24-in. joist (though 8-in. joists will be the largest produced), and a 14-in. bar mill rolling down to 2-in. sections.

The plant will use up 5,000 tons of coal (transported from about 300 miles away) each day, 6,000 tons of iron ore (mined some 40 miles away), and 1,500 tons of limestone. Water for the mill will come from two dams close by—one already built and used for irrigation, the other yet to be built. From 8,000 to 10,000 Indian workers, directed initially by some 200 Russian engineers, will operate the mill.

Much of the mill's equipment will be automatic. But it will not have all the latest controls the Russians have been installing in new and revamped mills. Western steel experts say this makes sense because of the acute shortage of skilled workers in India for operating complex equipment.

• **Peephole in Iron Curtain**—Though the mill is conventional by U.S. standards, steelmen point out that in at least two aspects, the mill shows





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the Russians are on top of up-to-date steelmaking methods. For example—they say—the mill will include a sintering plant for preparing iron ore for the blast furnaces. Steel plants in this country are just beginning to use sintering on a broad scale (though the technique has been known for many decades). As another example, steel experts note that the extensive use at Bhilai of oxygen to enrich combustion in open hearths and thus speed up melting is good steelmaking practice.

This is not to say the Russians soft-pedal the weak spots in their own steel expansion. Recent articles in Russian journals—for example—harp on the poor quality of rolled steel products. They deplore the waste of steel resources caused by inadequate control of wall thickness in beams and seamless pipe. And the Russians are still trying to cope with long-standing problems such as low worker productivity (now about one-half the productivity of U.S. steelworkers) and poor-quality coke.

But the Bhilai mill design, in part, reflects the strides Russia has taken since the war in improving its steel-making techniques. You get confirmation of this in the report made by the British steel mission that inspected Russian mills last year and in *The Economics of Soviet Steel* by M. Gardner Clark, a detailed study of the Russian steel industry just published.

• **New Techniques**—Many of the developments in Russian steelmaking continue to be copies of U.S. equipment and techniques, just as they were during the 1930s. But there's no denying the speed and skill with which the Russians are introducing new techniques of their own—and meeting five-year goals. Two of the most notable developments post-war are (1) the high degree of instrumentation in Russian mills, and (2) the introduction on a large scale of standardized equipment. For instance, Gipromez—the Moscow-headquartered design institute that plans foreign plants such as Bhilai, as well as all steel plants inside Russia—developed a standard design for a blast furnace of all-welded construction in 1948.

• **Men at Work**—Right now, at Bhilai, Kratenko and his staff (including a Chinese production specialist) are supervising construction of 16 railway sidings, numerous storehouses, workers' homes, and a power station. Bit by bit, equipment, shipped from Baltic ports, is arriving at Bhilai. The immediate job in the months ahead will be the construction of machine, forge, foundry, and steel-structural shops. Probably late next year, the parts for the main components—coke ovens, blast furnaces, open hearths—will begin to arrive at the site. Meanwhile, the first batch of some 300 Indian trainees have left for a year's

course in Russia to study steelmaking.

• **India's Goal**—Bhilai is one phase of the Indian government's ambitious program to boost steel output under the second Five-Year Plan (BW-Apr. 7'56, p119). The program calls for an increase in output from the present 1.5-million tons annually to over 6-million tons by 1961. Most of India's present



output comes from the privately owned Tata Iron & Steel Co., Ltd. at Jamshedpur (map above). As part of the Five-Year Plan, Tata—with the help of Kaiser Engineers Div. of Henry J. Kaiser Co.—is boosting output to 2-million tons.

But the Indian government is counting on the largest increase—some 4-million tons—to come from three brand new plants, together costing \$735-million. All of these will be managed by the state-owned Hindustan Steel Ltd. In February, 1954, the government signed up West Germany's Krupp-Demag combine to build a mill at Rourkela. A year later came the Bhilai project. This year the government ordered a third mill for Durgapur from a British consortium, called the Indian Steelworks Construction Co.

• **Race Against Time**—To the neutralist-minded Indian government, this broad program is merely a matter of getting steel output boosted as fast as possible. Until the plants begin operating, the Indian government will be buying steel for hard cash—\$120-million worth from Russia, also large amounts from East and West Europe and China.

But for Russia, Bhilai is a race against time. So far the late-starting British aren't even in the competition. And for a while, the Germans, though the first to start, bickered over equipment orders. It looked as though the Russians would finish their mill first, by a wide margin. But latest reports indicate that the German mill at Rourkela is moving along rapidly. According to India's Iron & Steel Ministry, both the Russians and Germans will begin pig iron production in October, 1958, full steel production a year later. **END**





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# In Business Abroad

• • •

## Jeeps on Parade Help Willys

### Finance Its Plant in Brazil

The 15-jeep caravan parading through villages in Brazil's state of Sao Paulo last week looked like a Wall Street campaign to rope in the small investor. And it was just about that.

The caravan was the brainchild of Willys-Overland do Brasil S.A. Willys is setting up a new factory near Sao Paulo that, by 1960, will turn out 20,000 jeeps a year. It needs some 150-million cruzeiros (about \$2.3-million) in operating capital. But Brazil's money market right now is tight as a drum.

So Willys teamed up with Deltec S.A., a local investment house, to hit the small Brazilian investor, who doesn't lack for money but shies away from stock issues. Willys also roped in 25 banks and seven brokers to help out, bought up radio time, and spread full-page ads in local newspapers.

The pitch: (1) You can buy Willys stock for only 100 cruzeiros a share (most Brazilian issues start at 1,000 cruzeiros a share); (2) you get an option to buy a jeep at a 10% discount if you take 500 shares; (3) you can put 40 cruzeiros down per share, with the rest paid in installments; and (4) you'll probably get at least a 12% dividend.

After a week's time—filled with samba bands and special Willys movies to stir up interest—the company had more than 30-million cruzeiros (about \$500,000) in the till. Said one of the brokers who was eying the Willys campaign carefully: "This could be the key to local financing in a credit-starved money market."

• • •

## Funds Available for Economic Aid

### Actually Top the Amount for Arms

This fiscal year—for the first time since the heyday of the Marshall Plan—the U.S. government has more money available for foreign economic assistance than for military aid abroad. There's \$7.5-billion available for economic aid, \$6.3-billion available for military assistance.

The Commerce Dept.'s Survey of Current Business indicates that a substantial part of this money is carryover from previous appropriations.

Congress voted \$2.4-billion for foreign economic assistance this year but there is a carryover from fiscal 1956 of \$5.1-billion. Military aid consists of a new appropriation of \$2.1-billion and \$4.2-billion carried over.

The foreign economic assistance consists of two different categories. Of the \$7.5-billion total, \$3.5-billion is uncommitted lending authority of the Export-Import Bank. Another \$4-billion is what's available in grants-in-aid.

The balance in favor of economic assistance is ac-

centuated if you add in the value of surplus farm goods donated through private volunteer relief organizations. Commerce says these may go as high as \$350-million during the current fiscal year compared to \$175-million last year.

• • •

## Cuban Steel Products Company

### To Have Own Open Hearth

Since its organization some five years ago, Cabillas Cubana S.A., Cuba's only steel-products plant, has turned out reinforcing bars and bought up scrap metal around the island for resale.

Now the company is planning to reorganize—and expand facilities to make use of the scrap directly in its own open-hearth furnaces and boost output to 112,000 tons a year.

Bandes, the Cuban government's development bank, is putting up \$6-million of the \$12-million expansion cost. The company itself and outside investors probably will cover the rest of the cost. Blaw-Knox Co., Pittsburgh, will handle construction, with Republic Steel Corp. providing technical advice.

• • •

## Business Abroad Briefs

**Indian Airlines Corp.** has canceled its order to buy a fleet of 14 Ilyushins from the Russians for domestic hauls. The purchase was blocked by J. R. D. Tata, chairman of IAC's sister company, Air India International, who charged they weren't good enough for India's tropical conditions. . . . **India's over-all trade deficit** has tripled during the first six months of this year over last.

**U. S. firms abroad:** Cappel MacDonald & Co., Dayton, Ohio, has set up a subsidiary in Frankfurt to promote selling schemes in West Germany involving premium give-aways. . . . **Inter-American Uranium Corp.**, capitalized at \$3-million, has been formed in Havana, Cuba, to explore the island republic for radioactive minerals. . . . **Tuttle & Kift, Inc.**, Chicago, the electrical subsidiary of Ferro Corp., Cleveland, has licensed English Electric Co. to build and sell electric ranges in Britain.

**More British radios for U.S.:** Regentone Radio & TV Co. of Romford, Essex, has received an opening order for more than \$1-million worth of radio and audio equipment for the American market. Regentone says it has other orders contingent on its being able to make deliveries.

**Charleston's foreign trade** is booming. The South Carolina port reports the dollar value of exports and imports in 1955 was \$183-million, a gain of \$37-million over 1954. That makes Charleston 13th among U.S. ports, ahead of Mobile, Savannah, Seattle, and Jacksonville.

**Colombia's Panal auto manufacturer** plans to assemble Japan's Toyota jeep. Panal already has a contract to assemble the Nash beginning next year.

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# INTERNATIONAL OUTLOOK

BUSINESS WEEK

OCT. 27, 1956



In Eastern Europe (page 27) the West is seeing a new kind of international crisis—one that arises from Soviet weakness. There is no doubt now that the Soviet Union had become over-extended.

No matter how Moscow deals with the satellite revolutions, the Soviet hand will be weaker in world affairs.

For one thing, the Kremlin will be preoccupied with its problems in Eastern Europe, trying to salvage as much as it can there.

Then, the repercussions inside Russia are bound to be serious. Communist Party boss Nikita Khrushchev, and the Soviet Party itself, have suffered a tremendous loss of prestige.

Even if things calm down in the satellites, the events of the past week could lead to a new Soviet regime—and new domestic policies.

Soviet influence around the world has suffered a blow. The Communist parties of France and Italy will feel it. So will the Moscow-dominated parties in the Middle East and Asia.

In fact, Peking is sure to be the main leader of Afro-Asian Communism from now on. It's even possible that Mao Tse-tung will become the world's leading Communist.

—•—

European plans for a Common Market and an atomic pool hit some snags last weekend in Paris.

At a meeting of foreign ministers from six Coal and Steel Community nations, the West German delegation threw cold water on both schemes. Economics Minister Erhard and Defense Minister Strauss, who horned in on the session, took the ball away from Bonn's European-minded Foreign Minister, Heinrich von Brentano.

The French, of course, were insisting on joining the Common Market without making the same commitments as the other five. But even when the French delegation made concessions that satisfied Italy and the Benelux countries, Erhard turned up his nose.

As for Euratom, Strauss refused to accept the proposed centralized setup. Speaking for German industry, he insisted on more freedom for private concerns to purchase fissionable materials—more even than they have in the U. S.

Washington still is hopeful that the strong political and economic pressures for integration will break the deadlock.

The Administration is thinking of giving things a push by advising the Germans that through Euratom they will get more and faster U. S. assistance on nuclear power developments than they can get by direct deals with the U. S.

Early in November the British Cabinet should decide its policy on "associating" Britain with the Common Market through a free trade area. Industrial and union organizations in Britain, whose views the Eden government has been seeking, still must speak their piece. But it looks as if opposition will be far less than originally expected.

# INTERNATIONAL OUTLOOK (Continued)

BUSINESS WEEK

OCT. 27, 1956

The Trade Union Congress probably will support the free trade proposals—subject to reservations for a few especially vulnerable industries. British business still is divided, but the big guns in British industry are coming round fast to the free trade idea.

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The threat of inflation is reviving through Western Europe. Industrial expansion everywhere has strained resources, especially manpower, to the limit.

Anti-inflation defenses are being strengthened now in West Germany, France, Holland, and Belgium.

Since the pressures take different forms in different countries, the remedies are different. The strains in West Germany and Belgium are due to excessively favorable export-import balances—receipts from the goods being pushed into foreign markets still have to be spent at home.

The German remedy is to stimulate imports by tariff cuts and to spur domestic consumption in general by both tax cuts and easier credit. The Belgians have imposed a wage-price freeze.

France has just floated a highly successful domestic loan, is keeping credit tight, is trying to stabilize living costs by cutting taxes on things like wine. The Dutch, now suffering from a drain on their gold reserves, have raised their bank rate and tightened credit.

Britain and the three Scandinavian countries reached the limit of their physical resources nearly two years ago. They are now getting inflation under control.

The difference in timing may bring the British some much-needed advantages. The rising continental pressure will ease Britain's position in two ways: (1) As prices rise on the Continent and delivery dates lengthen, British trade becomes more competitive, and (2) as interest rates fall in West Germany, rise in Holland, there's bound to be a readjustment of money market relations. Up to now, the Germans have been borrowing heavily in Amsterdam and London to finance their own foreign trade, thus putting indirect pressure on the pound and the guilder.

—•—

The French have opened a hornet's nest in Morocco and Tunisia, put their relations with these newly independent states in jeopardy.

The Moroccan and Tunisian governments were trying to mediate with the Algerian rebels to get an Algerian settlement. The high command of the rebel forces had taken a Moroccan plane for Tunis to meet there with the Moroccan and Tunisian leaders. French intelligence moved in, took the Algerian rebel leaders into custody—and outraged both Morocco and Tunis.

The Mollet government is prepared to ride out the storm. Paris figures that the Algerian rebellion, already fizzling out, will collapse completely without its high command.

Paris also figures it has exposed one of the main links between Egyptian Pres. Nasser and the Algerian rebels. The men who were captured have been making their headquarters in Cairo. This adds to the evidence of Nasser's complicity already gathered by French interception of an Egyptian ship loaded with arms for the rebels.



## PORTION PACK HOT PLATE LUNCHES

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CHOP SUEY  
BEEF STEW  
SPANISH RICE  
MACARONI CREOLE  
BEEF GOULASH  
BEANS (3 KINDS)  
MACARONI  
LAMB STEW  
CHICKEN STEW & DUMPLINGS  
CHILE CON CARNE

## PORTION PACK SOUPS

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BEAN  
CLAM CHOWDER  
CHICKEN WITH RICE  
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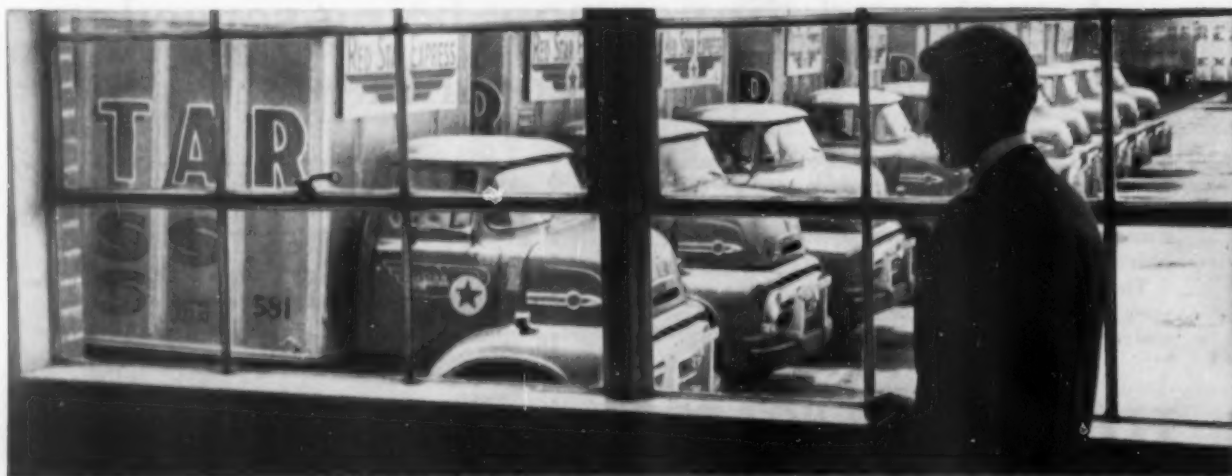
Or take operating cost. You get the sure-fire dependability of Ford's rugged chassis coupled with the oil and gas

economy of modern, Ford-pioneered Short Stroke engines. And for a clincher, insurance experts certify that Ford Trucks last longer.

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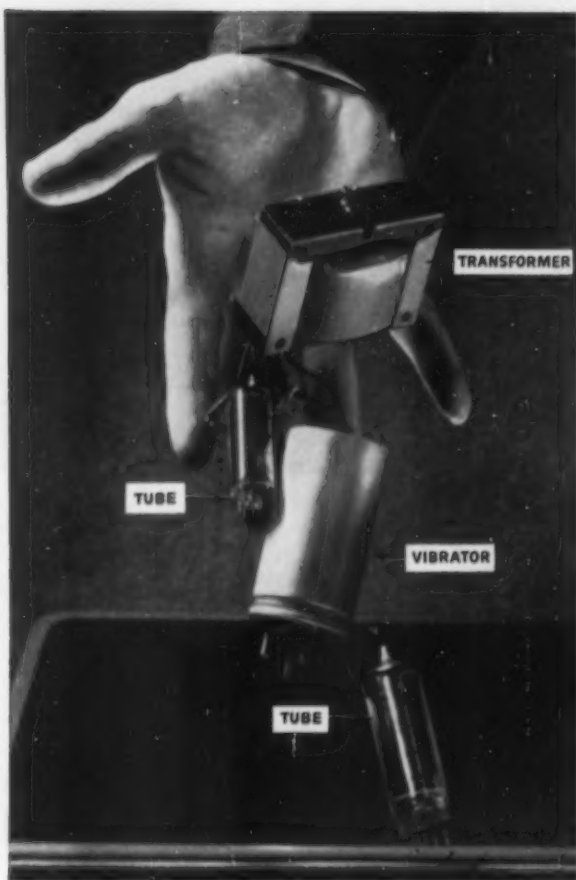


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## LABOR

# In New York: Another Port Strike?

Shipping offices and steamship lines in New York City were getting worried calls from all over the country this week. Companies using the world's biggest and busiest port for import and export wanted urgently to know whether there was going to be a strike such as that in 1953 (picture). Their eyes were on the date, Nov. 1. That is when an "extension" of the International Longshoremen's Assn. contract with waterfront employers is scheduled to expire.

The only answer possible was, "Maybe." Accordingly, prudent shippers are inquiring about alternative docking facilities at Boston, Baltimore, and ports as far away from the Hudson as Halifax and New Orleans.

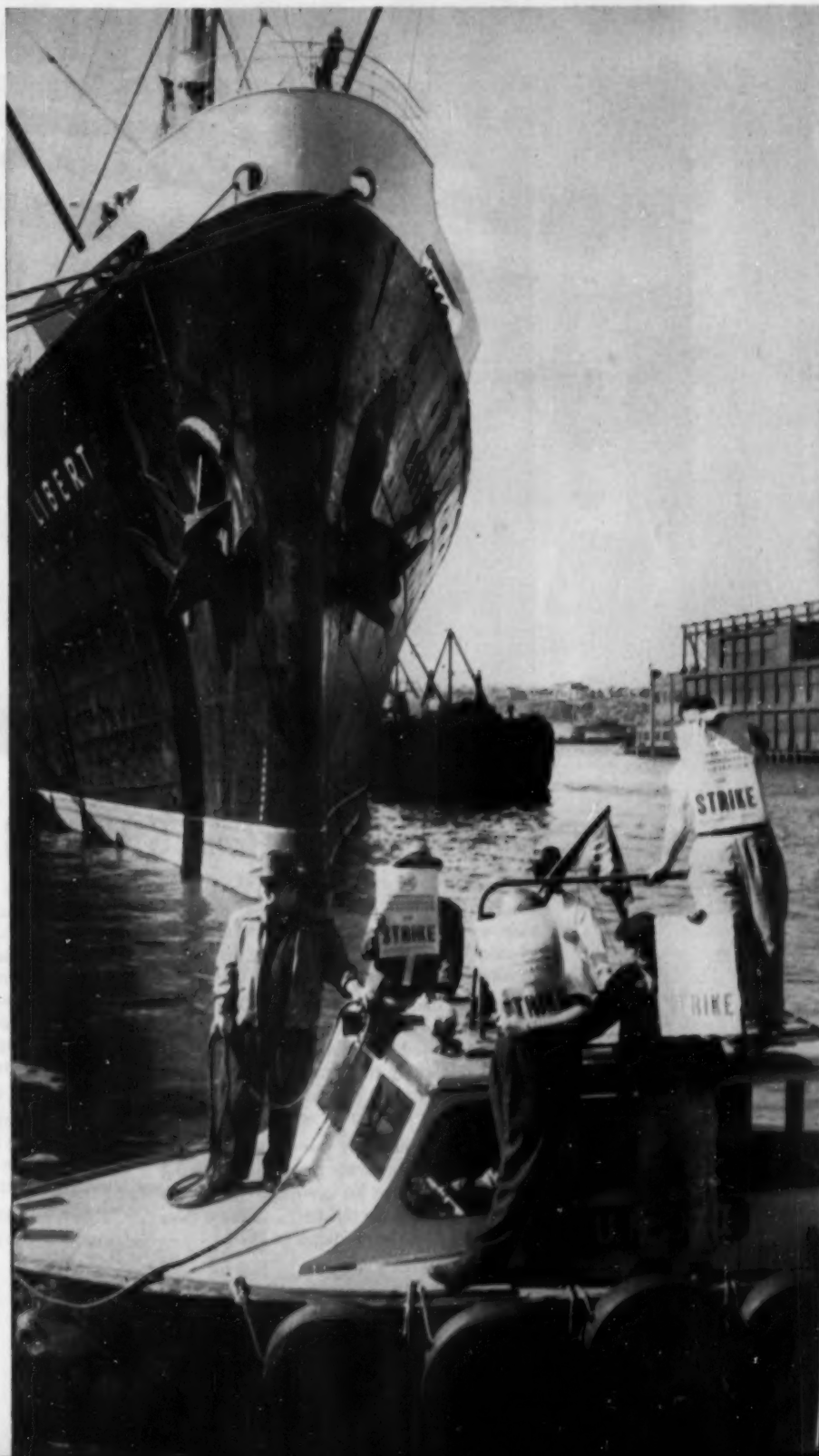
• **Challenge**—This latest crisis on New York's always troubled and often turbulent waterfront has been more than two years in the making. Its fuse was lit when, after ILA won an NLRB representation election from its AFL rival in May, 1954, AFL refused to give up, and announced that it would continue to challenge ILA's right to represent longshoremen.

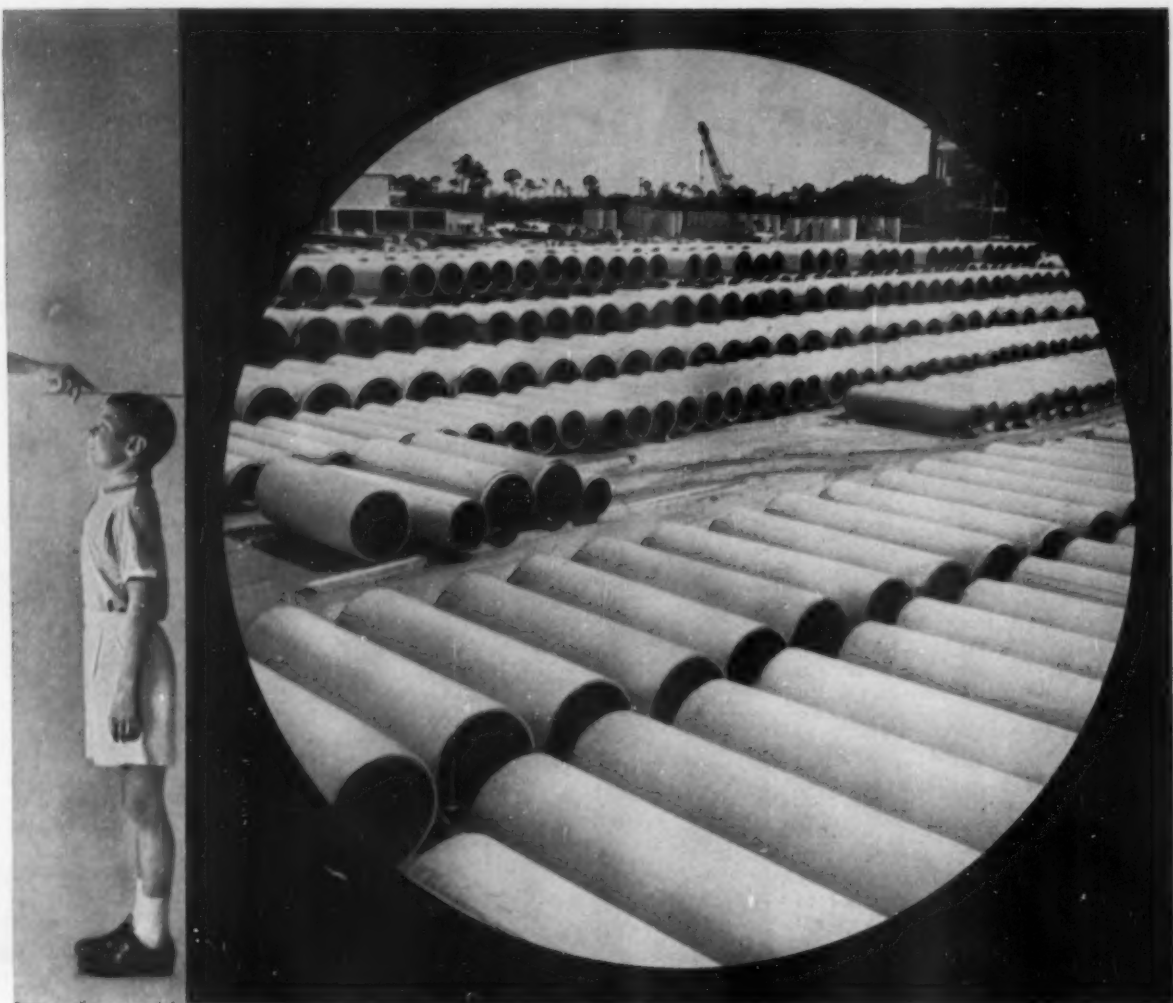
Although its NLRB election victory had been by a narrow margin—9,407 to 9,144—ILA did not believe that its rival would have the perseverance to keep going for the two years ILA's certification had to remain uncontested under NLRB rules. This belief was fortified when it became known after the ILA election victory that AFL had spent over \$1-million in the campaign, and was terminating its financial support to its defeated affiliate.

But a small group of rank-and-file longshoremen refused to make their peace with ILA. Persevering in their opposition, they got enthusiastic support, and money, too, from Paul Hall, head of AFL's Seafarers' International Union. Together, they kept alive the International Brotherhood of Longshoremen—the organization AFL created when it expelled ILA in 1953 for being irreparably corrupt and racket-ridden.

• **Teamsters' Deal**—For a long time, AFL, influenced in this stand by its president, George Meany—who had been bitterly disappointed by IBL's election defeat, stood aloof from the waterfront. Not so other labor forces, however.

With diamond-hard realism based on the outcome of the election, the Teamsters Union, which had been a major supporter of IBL, tried to make a deal with ILA. Teamsters Vice Pres. James Hoffa with, at the very least, no discouragement from Teamsters Pres.





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# "... whether the strike comes this time or not, the New York waterfront will remain a jungle..."

ILA starts on p. 167

Dave Beck, arranged a sizable loan to ILA, which would pay off that organization's debts. In return, ILA was to become a semiautonomous branch of the Teamsters, thus returning to AFL, under the broad Teamsters umbrella.

• **Support for ILA**—This was too raw for Meany who, while disenchanted with IBL, still was not reconciled to having ILA back in the federation. In a showdown with the Teamsters, he made it clear he would move for that union's expulsion from AFL if it gave ILA a home. This was enough to jettison the Hoffa deal, but the Teamsters continued an intimate relationship with ILA.

ILA got further support from Harry Bridges and the West Coast International Longshoremen's & Warehousemen's Union. This Communist-tainted organization, so far unchallenged in the Pacific ports, wanted no new and vigorous union to develop on the Atlantic and Gulf lest its own dominion be threatened. Bridges sent men and money to help ILA.

Strong help for ILA also came from Joseph Curran and the National Maritime Union—the organization of merchant seamen that has the big passenger lines as its principal jurisdiction. Clearly, Curran feared the rise of Paul Hall, whose SIU also represents merchant seamen, mostly on the freight lines. Curran's nightmare was a longshore union in the Port of New York which would be beholden to Hall and give him a dockside entree to NMU ships.

ILA continued to get support from many important shipping and stevedoring companies, none of which will make any moral defense of ILA, but will contend that business considerations dictate their pro-ILA position. And, most important of all, a large group of working longshoremen, unable to visualize any real change in their working life, continued their loyalty to ILA as the only possible labor organization on the docks.

• **Coasting Along**—With this mixed, but impressive, bag of assets, ILA coasted through the two years of its certification, convinced that its gadfly rival was sure to give up the fight. Feeling under no pressure, ILA did nothing to reform itself and little more to represent the interest of the men from whom it collected dues.

Meanwhile, IBL barely kept alive in a few store-front and backroom offices along the waterfront, enspirited only by the infectious enthusiasm and determi-

nation of Paul Hall. The city did not forget it, however, and as the two years of ILA's certification drew to an end, every newspaper in New York expressed the hope that the old ILA mob would again be challenged. In response, IBL, without consulting AFL because it feared a negative reaction, petitioned for another election. Meany hemmed and hawed for a while, then, as the newspaper editorials calling for support piled up, announced that AFL would again back IBL.

• **Still the Kingpin**—Alarmed, ILA began to bestir itself. It presented the shipowners and stevedoring companies with a staggering set of demands. It demanded a contract that would cover the whole Atlantic Coast—on the theory that the so-called "outports" were not infected with IBL-ism and if the bargaining unit's scope could be thus extended, the IBL nucleus in New York would be proportionately smaller.

Last week, the election was held. ILA won again, 11,827 to 7,428. But this time IBL's defeat was not followed by a wave of discouragement. In contrast to two years ago, Meany announced that AFL would stay in the fight for however long it would take to lick ILA. Hall, in character, called the outcome another preliminary battle, but not the

war. Contemplating the hard core of almost 40% of waterfront labor dead set against it, ILA shows signs of giving waterfront employers a real fight for an improved contract that will give it credit for doing something for its members. Its conclusion—at least for now—seems to be that this is its best way to turn IBL supporters toward ILA. Whether it will subsequently get around to purging itself of some of the gamy characters who are prominent in its leadership remains to be seen.

• **Uncertainty**—A month ago, the two-year contract between ILA and the New York Shipping Assn.—organization of waterfront employers—expired, and the Federal Mediation & Conciliation Service induced both parties to extend it until Nov. 1. ILA and the association are now in serious bargaining, with ILA pushing so hard that an early agreement seems in doubt. Hence the threat of an imminent port-wide stoppage.

But whether the strike comes this time or not, the New York waterfront will remain a jungle of primitive labor relations where any period of calm is deceptive and tentative, where violence is taken for granted, and where business and racketeering are not strangers to each other. Real stability will never come until this anachronism in American industry is ended—which means when either ILA is transformed into an honest and responsible organization or when it is supplanted. Either of those developments still seems a long way off.

## Cost of Living: What's Happening to It

	Total Cost of Living	1947-49 = 100			
		Food	Clothing	Housing	
				Total	Rent Only
September, 1949	102.1	101.1	97.9	103.2	105.7
September, 1950	104.4	104.0	99.2	107.1	109.5
September, 1951	111.6	112.5	109.3	112.9	114.2
September, 1952	114.1	115.4	105.8	114.8	118.3
September, 1953	115.2	113.8	105.3	118.4	126.0
September, 1954	114.7	112.4	104.3	119.5	128.8
September, 1955	114.9	111.6	104.6	120.4	130.5
October	114.9	110.8	104.6	120.8	130.8
November	115.0	109.8	104.7	120.9	130.9
December	114.7	109.5	104.7	120.8	131.1
January	114.6	109.2	104.1	120.6	131.4
February, 1956	114.6	108.8	104.6	120.7	131.5
March	114.7	109.0	104.8	120.7	131.6
April	114.9	109.6	104.8	120.8	131.7
May	115.4	110.0	104.8	120.9	132.2
June	116.2	113.2	104.8	121.4	132.5
July	117.0	114.8	105.3	121.8	133.2
August	116.8	113.1	105.5	122.2	133.2
Sept., 1956	117.1	113.1	106.5	122.5	133.4

Data: Dept. of Labor, Bureau of Labor Statistics.

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# UAW Hopes Wane at Kohler

**But the strike drags on, deep into its third year. The original issues have long since been supplanted.**

The United Auto Workers moved this week to reinstate unfair labor practice charges against the Kohler Co., manufacturer of plumbing supplies, but it was clear that UAW hopes of ever winning its 24-year Kohler strike were waning.

A week ago, after 111 days of hearings and 19,000 pages of testimony, a National Labor Relations Board trial examiner dismissed UAW charges against Kohler. He held that the union shouldn't have been allowed to initiate the proceedings two years ago because UAW trustees—elected constitutional officers of the union—have never signed non-Communist oaths required under the Taft-Hartley Act. The NLRB trial examiner cited a number of recent court decisions holding that trustees must sign T-H affidavits.

UAW protested the decision as "based on trumped up technicalities." The union said its trustees only audit union books—duties "substantially less" than those of the trustees of unions involved in the T-H court cases cited by the trial examiner. In asking the full NLRB to take the case on appeal, UAW noted that the board had confirmed by letter on Apr. 4, 1956, that the union was in full compliance with T-H.

• **Impasse**—No matter what NLRB does on the appeal, it is obvious that grounds have now been firmed for a long and involved court test. UAW had hoped that NLRB would write a strong decision against the company and open the way to a break in the long bargaining impasse by requiring the company to reemploy all strikers except those fired for illegal strike activities. NLRB may still issue such a ruling, overriding its trial examiner, but a ground for a Kohler legal challenge has now been established—well in advance.

As a result, UAW plans to rely heavily on a nationwide boycott against Kohler products to force the company into negotiations—on a basis acceptable to the union. So far, after six months, the boycott appears to have only a spotty effectiveness. The union claims it has cut Kohler sales 30%; the company says that sales are up.

• **Company**—Kohler officials say UAW has failed to "force on us [policies] that would eventually destroy the company." The company is operating near normal and, according to Lyman C. Conger, chief negotiator for Kohler, made a profit in 1954 and "a bigger

profit" in 1955 despite the strike.

Today's labor force is "a little smaller" than that before the strike, but production has changed "very, very little" and "actually, production per man-hour is higher now than before the strike."

UAW was bargaining agent for some 3,330 Kohler workers before the strike. It's generally estimated that 3,000 are now employed in the Kohler plant.

• **Significance**—The long strike points up, as no other labor dispute has in years, the way strikes grow in complexity as they stretch out:

Both company and union now talk of the strike as a crusade, not just an economic dispute. Conger said that Kohler is "fighting not only for ourselves but for that growing number of people who are not opposed to unions but do want to see them operate as they are supposed to—as representatives of employees—and are opposed to them becoming dictators of the political and economic life of the country."

AFL-CIO's Pres. George Meany called Kohler an anti-labor employer, and placed the federation squarely behind UAW by describing the Kohler strike as "a symbol" of union labor's fight for its rights.

During 24 years, the strike and efforts to settle it have become mired down in a morass of hot-tempered violence and vandalism, charge and countercharge, legal maneuvers, and even political skirmishing. Original issues have now become clouded, in some instances forgotten. New ones—particularly reemployment of strikers—have grown in importance. However, even these are now overshadowed by the determination of each party to wrest from the strike lasting support for either Kohler's theory of unionism or UAW's.

Here—in chronology—is how the Kohler strike got to where it is now:

## 1954

**Apr. 5:** UAW Local 833 struck Kohler in a contract dispute. Mass picketing shut the plant down for the first time since 1934.

**Apr. 7:** Nonstrikers were kept from entering the plant by massed pickets. Kohler charged "illegal picketing" under Wisconsin labor laws.

**Apr. 19:** The Federal Mediation & Conciliation Service entered the dispute.

**May 4:** Wisconsin's state labor board got UAW to accept a "truce" limiting picketing, and to agree to resume contract talks. Two days later, with more

nonstrikers entering the plant, mass picketing resumed and talks broke off again.

**May 15:** UAW sought an injunction against state intervention to limit picketing; the plea was denied. However, a federal judge offered a truce plan acceptable to UAW. Kohler rejected it.

**May 21:** The state labor board ordered mass picketing ended.

**May 24:** Charges that "an arsenal" of tear gas, guns, and clubs was maintained in the Kohler plant (some left from 1934 Kohler labor rioting) were considered by a secret county inquiry.

**May 29:** On orders from Wisconsin's attorney general, the Sheboygan County sheriff confiscated tear gas and arms in the Kohler plant.

**July 3:** Negotiations broke down, and UAW filed unfair labor practice charges against Kohler, alleging refusal to bargain in good faith. These are the NLRB charges just ruled out by a board trial examiner.

**July 9:** Wisconsin Gov. Walter Kohler (no connection with Kohler Co.) proposed arbitration. UAW agreed after the company refused.

**Aug. 9:** Strikers began receiving \$25 a week from the union, "jingling money" that augmented food vouchers and mortgage, insurance, and other emergency aid.

**Aug. 10:** UAW modified pay and union-shop demands; Kohler held fast.

**Nov. 17:** With more workers entering the plant, UAW reported that 98.5% of its members favored staying out—compared with an original 88.1% vote for a strike.

**Dec. 30:** UAW protested a \$2-million Defense Dept. contract for Kohler as support for a struck employer.

## 1955

**Jan. 3:** As new FMCS efforts to settle the strike broke down, the Senate Labor Committee called for information on issues in the 9-month strike.

**Feb. 3:** CIO demanded a Congressional probe of defense contracts going to struck firms.

**Feb. 8:** NLRB opened a week of stormy hearings on UAW unfair labor practice charges against Kohler.

**Mar. 1:** Kohler fired 90 strikers, including all local union leaders, for "violent" picketing. UAW protested to NLRB, which added "discriminatory firing" to the charges against Kohler.

**Mar. 21:** Wisconsin's labor board cited UAW for contempt, charging violations of its limited-picketing order.

**Apr. 29:** UAW announced plans for a nationwide boycott against Kohler.

**May 25:** A state court found 16 strikers



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and local union officers guilty of contempt in the picketing case—but international UAW was cleared.

**May 27:** NLRB added four new unfair labor practice charges to those pending against Kohler. A Senate labor subcommittee "invited" UAW and Kohler to appear before it. A week later, Senate efforts to settle the strike through committee mediation failed.

**June 3:** NLRB opened three weeks of hearings that produced heated arguments; charges were further amended to allege that Kohler "did interfere with, restrain, and coerce" striking employees.

**June 10:** After UAW protests, Sheboygan County's district attorney ruled Kohler Village police were legally authorized to have machine guns.

**July 5:** A Norwegian freighter, the Fossum, loaded with clay for Kohler, docked in Sheboygan, was met by Kohler pickets. Sheboygan's mayor four days later barred the freighter from unloading there, and it sailed for Milwaukee.

**July 7:** CIO threatened a general strike in Milwaukee if the city government allowed the Fossum to unload there. Milwaukee's harbor commission barred unloading. On July 9, the ship sailed for Canada and unloaded there, the clay moved by rail to the Kohler plant. Although rail unionists were observing UAW picket lines, trains were moving into the Kohler plant with supervisors at controls.

**July 13:** Gov. Kohler said he would "make certain there is no unlawful interference with lawful commerce," but Milwaukee announced that "it [could] not and will not guarantee" Kohler clay would be unloaded. A second Norwegian clay ship was diverted to Montreal. Maritime unionists warned Wisconsin ports would be "slammed tight" if efforts were made to unload Kohler clay shipments.

**July 14:** Pres. Eisenhower, asked to intervene, called on FMCS to "intensify in every way possible efforts" to bring the strike to an end.

**July 20:** A new set of NLRB hearings got under way, as angrily as before.

**July 27:** FMCS arranged for negotiations to resume. The key issue by then was a UAW demand for reemployment of 2,060 members still on strike; Kohler said it would take back all with 15 years or more seniority (about 540) but not necessarily at their old jobs. It said that it regarded workers hired during the strike as "permanent employees" who will not be let go to make room for returning unionists.

**Aug. 2:** Negotiations broke off over the reemployment issue.

**Aug. 8:** Secondary boycott charges were filed against UAW, its Local 833, and 10 other unions as a result of the interference with clay vessels. Attorneys

asked for an injunction against ship picketing.

**Aug. 23:** NLRB upheld charges against the unions, got UAW and Local 833 to pledge not to picket docks, ships, or trains hauling freight for Kohler. NLRB said it would not enjoin such activities if UAW avoided them by "voluntary" agreement. Shipping has moved without blockade since then.

**Dec. 1:** UAW started its national boycott of Kohler products, assigning a dozen international representatives to head it, by regions, and setting up a staff of 65 to prepare and mail literature monthly to plumbing contractors, architects, government officials, and local unions, urging them: "Don't buy Kohler."

1956

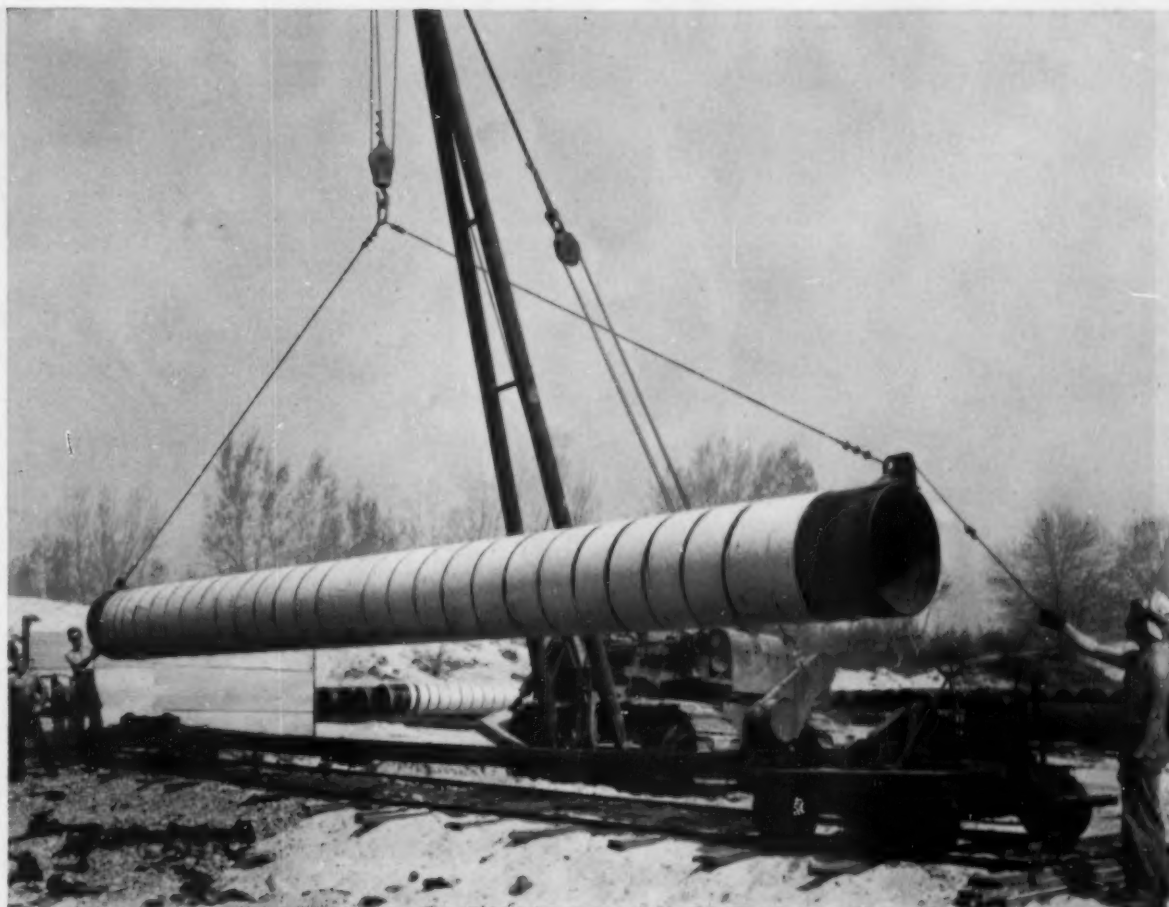
**Mar. 19:** FMCS got the parties together for the first time since August, but talks snagged in less than three hours—again on reemployment rights of strikers.

**Apr. 6:** Alan J. Graskamp, Local 833 president, told members to "dig in for the long haul." Pointing out that about 30% of the 2,000-odd still listed as Kohler strikers were working full or part time, he called on the others (still receiving \$25 a week "jingling money" plus other financial aid from UAW) to get jobs—warning that UAW already had paid out \$84-million and might cut off all help except for hardship cases. UAW set up a placement bureau to help strikers get new jobs. At the same time, the union reduced pickets to a skeleton line, noting that full picketing hadn't kept workers out of the Kohler plant.

**July 22:** A national survey of the effectiveness of the UAW boycott found its results spotty—in many places unnoticeable. Kohler called it "an annoyance—that's about all." But UAW continued to press it as a potentially important economic weapon, one official commenting dryly that "it might take years for the union fight against Kohler to come to a final decision."

**Oct. 16:** As the NLRB examiner dismissed unfair labor practice charges against Kohler, the company reported that although picketing has been restrained by court order, over 600 cases of vandalism have occurred away from the picket line. Property of many of the estimated 3,000 now working at Kohler has been damaged by paint or rocks. Recently, a building contractor with a remodeling contract from Kohler reported new offices in Sheboygan "bombed" with paint. And UAW reported the dispute still "hopelessly deadlocked" over reinstatement of strikers, commenting that no union can be expected to work out a settlement that means only a minority of its members will return to work at their former job. **END**





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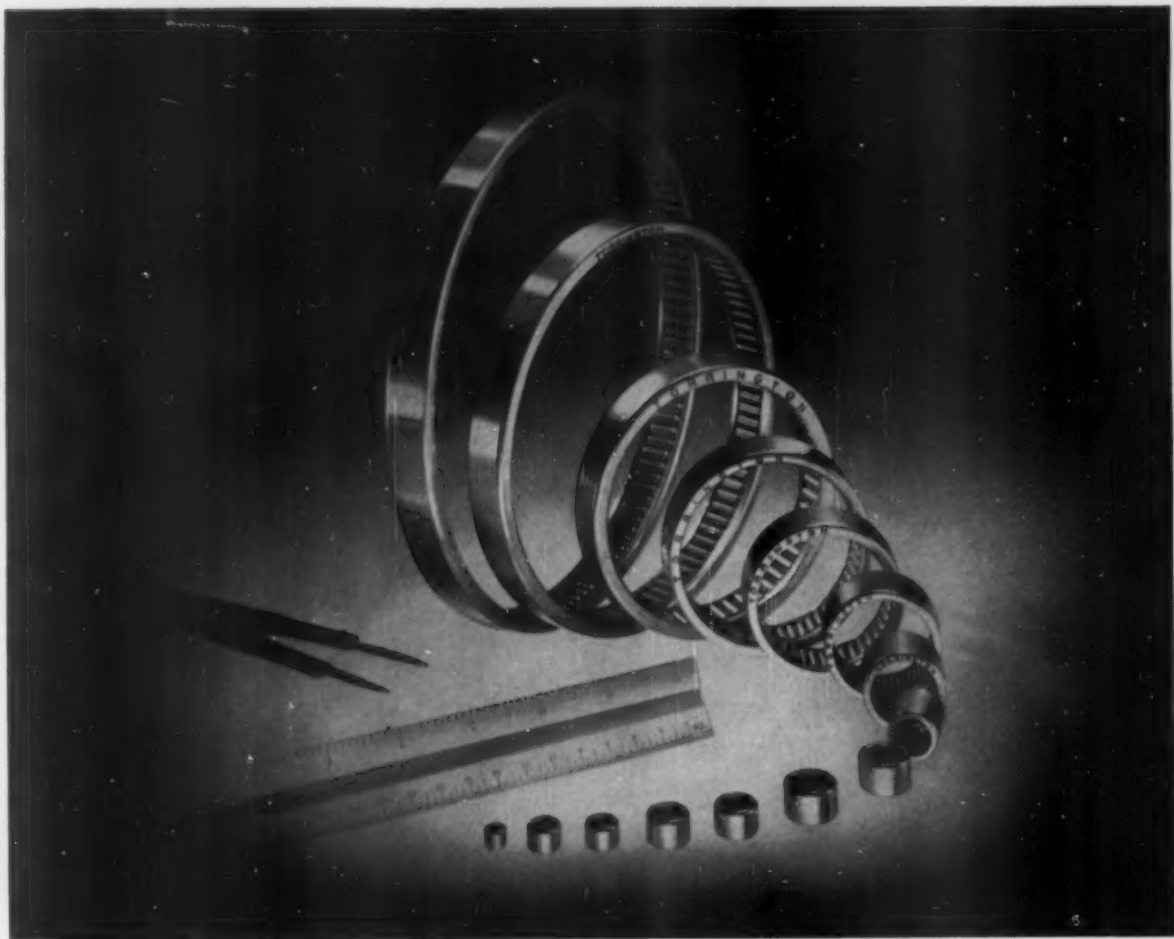
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# In Labor

• • •

## Mitchell Tells Bricklayers

### Of Plan to Smooth Out T-H Law

"Overhaul of the Taft-Hartley Act is the policy of this Administration, and I propose to see that steps are taken in that direction," Labor Secy. James P. Mitchell told an AFL-CIO Bricklayers convention in Seattle. The statement by GOP's ambassador to labor brought an enthusiastic response from the union—one of the few that hasn't committed itself to the Democrats.

Mitchell announced that a labor-management committee will be set up in the construction industry by Jan. 1 to develop "specific recommendations for the amendment of the Taft-Hartley Act [in] its application to the building and construction trades."

The Secretary of Labor agreed with the Bricklayers that building-trades unions have been hampered by some sections of T-H.

Richard T. Gray, head of the Building & Construction Trades Dept., told delegates that union labor's share of building work slumped from 86% in 1946, before T-H, to a current 60%; he blamed T-H.

Mitchell indicated later that other industry groups may be set up to study "special problems" under T-H.

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## Minority Group Clamors to Kill

### Boost in Dues of Steelworkers

A number of United Steelworkers locals are circulating petitions for a special convention to revoke an increase in dues from \$3 to \$5 a month. The boost was voted at the USW's convention in Los Angeles last month.

The increase was "railroaded through" there, critics charge. To be used in part to hike officers' salaries—including Pres. David J. McDonald's \$40,000 a year to \$50,000—the dues raise stirred convention controversy. Foes say they were "shut off" in arguments against it.

The moves for a special convention come from a small but active minority. They aren't likely to gain support enough to force another convention, but they could rally sufficient anti-McDonald sentiment to embarrass his administration in USW elections next February.

McDonald will hardly be opposed for reelection. If there is a fight, it will center against Howard Hague, a top aide, and pro-McDonald district directors.

• • •

## SUB—the Rubber Industry Type— Gets Foothold in Aircraft Industry

Supplementary unemployment benefits plans moved into the aircraft industry last week when the Goodyear Aircraft Corp., Akron, and the United Auto Workers put SUB into effect for 5,000 workers.

Although UAW's auto-type SUB is generally considered a model for industry, the rubber industry's pattern for supplementary pay was followed by Goodyear Aircraft and UAW Local 856. The rubber plan was worked out by Big Four companies and the United Rubber Workers with the special requirements of Ohio law very much in mind (BW—Sep. 22 '56, p174).

Because idled workers in Ohio can't collect state benefits and private supplementary pay at the same time, the Goodyear Aircraft jobless will receive either (1) lump sum payment of what's due them in SUBenefits after state compensation runs out or when recalled to jobs, or (2) SUBenefits on a rotating basis—two weeks of state compensation and no state benefits but accumulated SUB in each third week. The plan will cost 3¢ an hour.

• • •

## Courts to Hear Referee's Ruling Of "Lockout" at Westinghouse

The legal fight over unemployment compensation for Westinghouse workers involved in a long labor dispute last winter is still following a complex course.

Last week, a Pennsylvania unemployment compensation referee held that most of 23,650 workers idled in the state by the contract dispute are eligible for UC benefits for part of the time they were off the job. The referee ruled that by refusing an arbitration proposal by Gov. George M. Leader, Westinghouse in effect "locked out" employees. He commented:

"... The union's acceptance of the governor's proposal, without reservation, and then its informing the company of its desire to return to work ... was the condition precedent which turned the strike into a lockout."

The "lockout" ended, he ruled in a 75-page decision, when Westinghouse accepted a settlement proposal by federal mediators and the union rejected it.

Several weeks ago, the Pennsylvania Supreme Court turned down union moves to void an injunction against UC payments to the Westinghouse workers.

• • •

## Labor Briefs

No raise will be sought by AFL-CIO's lumber and sawmill union in western states because the lumber market is "demoralized ... in bad shape both price-wise and market-wise." Union officers decided to skip a Nov. 1 wage reopening, wait until Apr. 1 to talk wages.

Nebraska AFL and CIO have merged, bringing the number of state labor consolidations to 16 in six months.

The meat union merger is off again, after a new dispute over staff jobs. A unity convention scheduled for Chicago this week was "postponed indefinitely."

The Society of Skilled Trades, made up largely of discontented United Auto Workers craftsmen, lost 258 to a no-union 261 in a campaign to unionize Burroughs Corp. workers in Detroit. A victory would have been a big boost for SST, since other unions—including UAW—have been rebuffed repeatedly in efforts to win representation rights at Burroughs.

# Executives Usually Have Larger Estates Than They Realize, Guaranty Trust Finds

## HOW MUCH IS YOUR ESTATE WORTH?

It may be larger than you think. Use this table to list your assets.

Cash and Security Investments	\$ _____
Savings Account	_____
Life Insurance (personal policies)	_____
Life Insurance (company group policy)	_____
Real Estate	_____
Household Effects and Personal Property (automobile, furniture, paintings, coin or stamp collections, etc.)	_____
Profit-Sharing Benefits	_____
Pension Benefits	_____
Social Security	_____
Stock Options	_____
Other	_____
<b>TOTAL</b>	<b>\$ _____</b>

After determining your total assets, it may be worth your while to seek the advice of your attorney and the trust officer of your bank.

Estates of businessmen often lose benefits because of absence of professional guidance. Some benefits are lost simply because the executive does not appreciate his actual worth.

Many business executives believe that trust and estate planning is only for the man of above average means. The experience of the Guaranty Trust Company of New York indicates that the families of many executives have been deprived of substantial benefits because of this mistaken belief.

In these days of profit-sharing benefits, retirement plans, and stock options, the present and future capital assets of the average business executive are far greater than his bank balance and salary check seem to indicate.

Many executives hold important positions and have excellent prospects for the future, yet do not feel the need for help in estate planning simply because they have never stopped to consider how large their total assets really may be. These are the very men who should seek the services of an attorney and the trust officer of a bank.

In a recent article, *Trusts and Estates*, an authoritative magazine of the trust field, said:

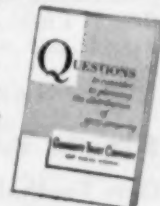
"Many highly paid company executives have so little opportunity to save that they consider themselves as men with large incomes but little capital, and therefore not especially in need of trust and estate services.

"Such is not the case. The executive usually has more assets than he realizes, and in any event he is exactly the man who should plan with the greatest care for the future and, incidentally, for the rest of his life."

In making his plans, this executive should seek the help of an attorney and trust company because:

- He will be able to develop a practical plan for his lifetime and for his estate. He will thus be protecting himself and his family.
- He can receive help in avoiding tax pitfalls. Sometimes a slight change of wording in a will can mean tremendous tax savings.
- He can receive guidance on current investment trends to help him plan for his investment objective of safety, income, or growth.

After reviewing your assets (see check list opposite) you may well profit by talking to your attorney and the trust officer of your bank. In the meantime, Guaranty Trust Company will be glad to send you a copy of "Questions to Consider in Planning the Distribution of Your Property." Just write to Mr. Hamilton C. Hoyt, Vice President, Dept. BW-8.



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## THE MARKETS

### Wall St. Talks . . .

... about wisdom of business expansion . . . margin requirements . . . squeeze on shopping center promoters.

One banker's thoughts on the business expansion boom: "The very large increase in capacity currently being developed in certain of our leading industries," says David Rockefeller, executive vice-president of New York's Chase Manhattan Bank, "makes one wonder whether we may not be trying to grow too fast along certain lines. Certainly a further acceleration of the rate of expansion in 1957 might well be questioned on the grounds that it would represent the sort of 'bunching' of growth that could lead to very difficult adjustments for the economy as a whole."

Don't believe the rumors that margin requirements will soon be cut, advises one smart Streeter. He has checked in Washington and can find no trace of the rumored concern over the market's shoddy performance.

Shopping center building plans are being hit by today's money squeeze, reports Standard & Poor's Corp. Lenders, it says, will no longer grant long-term loans to finance up to 90% of their construction costs; promoters must now own as much as a 25% equity in such projects before ground can be broken. As a result, many building plans have lately been shelved; indeed, a leading national chain that had scheduled 200 new shopping center stores this year has been forced to cut by more than 50%.

**Boom-time semantics:** Here's one financial-page headline that wowed Street cynics this week: "Dividend raised 10%." And here's why: While the headline was technically correct, the 10% hike actually amounted to only 1¢ per share.

**Open-end investment trust assets** totaled \$8.5-billion on Sept. 30, reports the National Assn. of Investment Companies. That's some \$106-million less than the midyear total, despite third-quarter "new money" receipts (new share sales minus redemptions of old stock) of about \$218-million. Causing the decline: The trade's payment of some \$32-million of "security profits" dividends and a drop in the value of its investment holdings.

1955 Close=100



## Victims of Sluggishness

Held fast in the grip of pre-election sluggishness, stock prices this week shaded some of their early October gains, but generally got nowhere. The slowed-up tempo of trading—average daily trading volume on the New York Stock Exchange so far this month is the lowest since the summer of 1955—has given Wall Street's market technicians a chance to poke around into the workings of the 1956 version of the big bull market, and see whether it is really a bull market at all.

At least as far as one major cluster of stocks is concerned, 1956 has been no picnic. The consumers goods shares, which include a range of industries from autos and tires to beer and soap, are currently lodged 2.1% below their close at the end of last year. At their best, these shares gained only 2.2% this year. Through most of this year they have been moving along just below the 1955 close. And yet, there has been a \$4.2-billion increase in consumer spending so far this year.

Capital goods shares have been moving for the last nine months in a very different pattern. They have gained 14.8% so far this year, and at one time were up as high as 24% over last year's close.

**Closing Gap**—Currently, both groups are far below their 1956 tops, but the fact that capital goods shares have lately suffered more than consumers

has narrowed what was once a fairly broad gap between the two. As usual in a decline of 10% or better in average market prices, the groups that have flown the fastest—and farthest—also suffer the most in the subsequent slump. And consumers groups such as cigarettes, confectionery, retail stores, foods, and drugs, invariably hold up better in a decline than groups such as machinery and steels, whose sales and earnings are more volatile (table, page 178).

Within both major groups there are, of course, some pretty wide divergencies. But these show up much more among the capital goods than in consumers shares. Declines in consumers shares have been pretty widespread, both by groups and for individual issues. Two-thirds of the groups that comprise the consumers goods index have declined this year, and only two industries—printing and publishing, and drugs—show any really solid gains. Wall Street has shunned the others with varying degrees of aloofness: Confectionery shares are off only 2.4%, while radio and TV makers have suffered an 18.2% decline.

**Selective Dealing**—In the capital goods group, the showing is decidedly more selective. In the first place, while the group shows a gain of nearly 15% this year, five of the 14 composite stock groups within the index have declined. Some of these dips run far: fertilizer



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makers are down 19%; agricultural machinery, off 12.5%; chemicals, off 7.3%.

Within some of the stock groups that have powered the capital goods index through most of its 1956 advance, there is a marked selectivity, too. The large and important building materials group, up 9.8% on the year (it was up 23% at its high), has been carried largely by the cement shares and by two individual issues, National Lead and Johns-Manville. Stocks like Ruberoid, American Radiator, Crane Co., and National Gypsum actually show losses for the year. In the shipping group, the 18% price rise this year has been accounted for by better than 35% increases for American Export Lines and U. S. Lines, while American-Hawaiian gained 15% and Moore-McCormack a skimpy 6%.

Some of the declines from the year's highs among the capital goods components tell the story of much of this year's investor disenchantment. Chemicals, a long-time bull market favorite up to now, were up 7.9% at their high this year but are now off 7.3%. Mining and smelting shares were as much as 33% over their yearend price but are up only 17% now. Lead and zinc

showed an 11.3% gain earlier in the year but now is off 1.2%. Copper, the apple of the investors' speculators' eyes in the spring, had been 23% above yearend prices, now is up only 11%.

• **Slow Business**—Over the past few weeks, the question of whether to invest in capital or consumer goods shares has seemed academic for most potential stock buyers—they just haven't been buying much of anything. Volume has stayed depressingly skimpy; for the year, it will run well behind 1955, unless turnovers increase vastly in the fourth quarter. Prices have shown no clear-cut tendencies either up or down for three weeks. The stock market probably won't shake off its lethargy until the Nov. 6 results are counted. Neither domestic economic news nor foreign developments have been strong enough to shake new funds out of investors' pockets or stampede them to sell. Good earnings reports and increased dividends drew as limp a response as bad earnings and cut dividends. And the challenges to Soviet domination in the East European satellites didn't upset the market a bit when first news broke.

## A View Behind the Indexes

	1955 Close	1956 Range High Low		Recent Level	1956 Gains Maximum Recently	
COMPONENTS OF THE CAPITAL GOODS INDEX						
Agricultural machinery.....	179.5	181.7	153.3	157.0	1.2%	-12.5%
Building materials.....	346.6	426.3	323.9	380.7	23.0	9.8
Chemicals.....	477.2	515.0	440.9	442.3	7.9	-7.3
Copper.....	286.3	351.7	284.5	317.5	22.8	10.9
Electrical equipment.....	365.4	423.8	359.5	387.9	16.0	6.2
Fertilizer.....	496.1	509.6	401.3	401.3	2.7	-19.1
Lead and zinc.....	117.9	131.2	109.2	116.5	11.3	-1.2
Machinery.....	294.5	392.6	283.2	380.1	33.3	29.1
Mining and smelting.....	229.6	293.6	227.0	270.2	27.9	17.7
Office and business equipment.....	557.5	873.4	550.8	820.2	56.7	47.1
Railroad equipment.....	158.2	163.1	148.1	149.3	3.1	-5.6
Shipbuilding.....	483.7	515.1	415.6	515.1	6.5	6.5
Shipping.....	775.1	917.9	716.0	913.0	18.4	17.8
Steel.....	498.1	562.9	455.6	558.0	13.0	12.0
COMPONENTS OF THE CONSUMER GOODS INDEX						
Automobiles.....	475.6	496.7	423.2	486.9	4.4	2.4
Auto parts and accessories.....	272.8	291.1	250.5	280.9	6.7	3.0
Brewers.....	206.2	225.3	177.1	179.0	9.3	-13.2
Cigar makers.....	199.9	203.9	178.9	201.1	2.0	0.6
Cigarette manufacturers.....	95.5	99.9	89.4	90.8	4.6	-4.9
Confectionery.....	159.0	165.9	155.2	155.2	4.3	-2.4
Containers—glass.....	208.3	239.1	189.2	196.8	14.8	-5.5
Containers—metal.....	158.0	171.1	148.0	153.5	8.3	-2.8
Distillers.....	474.0	490.5	458.0	475.2	3.5	0.3
Drugs.....	166.8	198.5	159.0	185.6	19.0	11.3
Floor coverings—carpets, rugs.....	131.0	144.2	118.5	124.4	10.1	-5.0
Floor coverings—hard surface.....	158.7	194.3	156.4	158.6	22.4	-0.1
Food products.....	211.1	212.7	199.0	199.0	0.8	-5.7
Motion pictures.....	241.0	252.4	228.6	232.6	4.7	-3.5
Printing, publishing.....	188.2	243.8	183.6	230.1	29.5	22.3
Radio, TV, electronics.....	456.1	477.3	373.2	373.2	4.6	-18.2
Retail stores.....	288.0	289.3	256.7	263.7	0.5	-8.4
Shoes.....	156.9	158.2	139.0	139.5	0.8	-11.1
Soaps.....	298.3	322.4	278.3	278.3	8.1	-6.7
Soft drinks.....	131.4	134.3	112.0	112.0	2.2	-14.8
Sugar.....	129.7	139.3	128.8	136.9	7.4	5.6
Textiles and apparel.....	276.0	276.1	217.0	226.5	....	-17.9
Tires and rubber.....	1167.5	1273.9	1072.4	1186.5	9.1	1.6

Data: Standard & Poor's Corp. weekly stock price indexes (1935-39=100)



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# PERSONAL BUSINESS

BUSINESS WEEK

OCT. 27, 1956



**As a homeowner, you have a legal duty to protect people from injury when they come on your property—if you forget this, it can cost you money.** A man may slip on an icy sidewalk in front of your house; a neighbor's child may fall on your snow shovel; a furnace repairman may crash down a broken staircase in your basement. Whether you become financially liable can easily depend on how well you remembered some of the routine obligations of home ownership.

The law says you must use your property in a "reasonable" way that avoids undue harm to outsiders. How this rule is narrowed down to fit a particular case usually depends on two things: **where on your property the injury took place, and why the person was there.**

**The duty to repair and maintain the public sidewalk** varies from state to state, city to city; in most places the city is responsible for injuries caused by defective walks. However, you—as adjoining landowner—can be held accountable if (1) something on your land caused the defect (such as a falling wall), or (2) you caused it by trying to repair the walk or by altering it for your own benefit.

**Removal of snow and ice** is part of the city's duty—so it probably would be liable to anybody who slipped on your sidewalk. Still, there's a chance that you would become involved in a time-consuming court action (maybe as a witness in a suit brought by the injured person). What's more, you probably would be penalized by the city for not cleaning your walk.

**Your property lying between the street and sidewalk**, and also the part of your yard close to the walk, must be maintained so the public right-of-way is kept clear. You have to remember that people often stray from the walk or road—for example, a motorist may have to go on your property to fix a tire. You're responsible for such dangers as open holes in the ground, weakly constructed walls, dangerous overhanging tree limbs.

**Your duty to safeguard those who come on your property—friends, neighbors, tradesmen, trespassers—varies according to your relationship to each.** Here are some general rules, followed by most courts:

**The social guest**—or anyone who visits you by invitation or special permission—assumes a fair risk. You are under no obligation to make the premises safe for him, but you must warn of any dangerous condition that you know about—a broken step, an uninsulated wire. You are not obligated to inspect for concealed dangers; if you don't know, it's his risk. If he discovers the danger himself and is later injured by it, you are not liable. He was aware.

**Business visitors**—mailmen, messengers, repairmen, deliverymen, business clients and associates—have a legal right to expect "reasonable care" to make your property safe for them. You have to inspect for dangers and warn them of all you find. But you aren't responsible for anything that a reasonably careful inspection does not reveal.

**The trespasser** enters your ground at his own risk—but not to the point of absolute immunity for you if he is injured. You are not liable if he falls into an unguarded ditch, for example. But if you discover him, you can't use force to throw him off unless you can reasonably assume he is there for a criminal purpose.

# PERSONAL BUSINESS (Continued)

BUSINESS WEEK

OCT. 27, 1956

Children must be protected. Courts are lenient in allowing claims of children hurt while trespassing. The "attractive nuisance" rule may be applied in your state—it makes you generally responsible for objects that are especially attractive and dangerous to children, such as swimming pools, ladders, flag poles, machinery.

**Warning to dog owners:** Your pet can land you in court pronto if he bites the wrong person. In some places you're allowed one bite to discover that your dog is "dangerous." After that, you are liable. In other places, you don't get even one bite. You're liable, period.

—•—

The AAA predicts that about 33-million motorists will have breakdown troubles this fall and winter. You're less likely to be a victim if you have your garage—in addition to the usual checkup—pay special attention to these points:

- Adjust the clutch. In cars with automatic transmissions, the fluid should be put at the level recommended by the manufacturer.
- Check electrical equipment (horn, windshield wiper, lights, heater, defroster). They take a heavier beating in winter weather.
- Put snow tires on rear wheels before the first snow falls, if you use them. Be on the safe side.
- Coat exposed ignition wires with a waterproof substance to prevent wetting and freezing.
- Examine muffler and exhaust system for possible leaks.

During the winter, a battery may operate at only half its normal efficiency. This is because of increased use when starting the engine, and added strain from running the heater, defroster, and other electrical equipment. Now's the time to have it recharged or replaced.

**Starting a car in cold weather is easier if you avoid pumping the accelerator.** If you have a standard shift car, keep the clutch in. Don't turn on electrical equipment until after the car starts. And to insure proper lubrication, run the engine a few minutes before driving.

—•—

**Yachtsmen in the market for custom-built boats in the medium-size class should act fast.** Yacht designers and boatbuilders are already swamped with orders for next year—you'll have to place yours within the next few weeks for spring delivery.

Unlike past years, it won't cost much more to have a boat built in the U. S. than in European yards. Price differences are much less. Also, it is often worth paying more to be able to check on the boatbuilding from time to time.

**Incidentally, now is the best time to look for secondhand boats.** Selection is greatest in the fall, and in northern states prices are near their low point for the year.

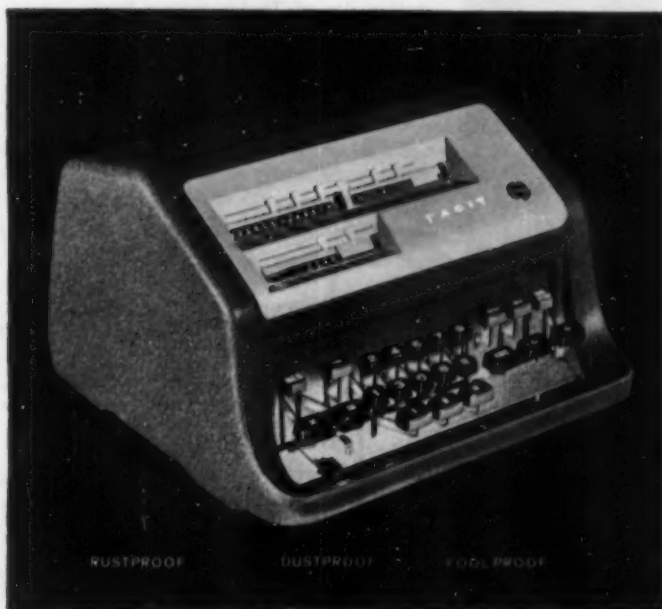
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**Notes for your calendar:** The quarterly payment of Social Security tax for domestic help is due Oct. 31.

Gifts to servicemen abroad should be mailed by Nov. 15 for delivery before Christmas. Total measurements of each package must not exceed 72 in. (Incidentally, a Red Cross survey of field directors shows that cash gifts are the most popular. Send money orders; sometimes GIs abroad have trouble cashing checks.)



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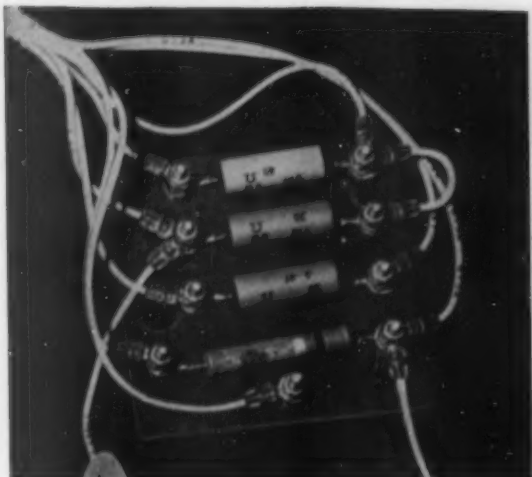


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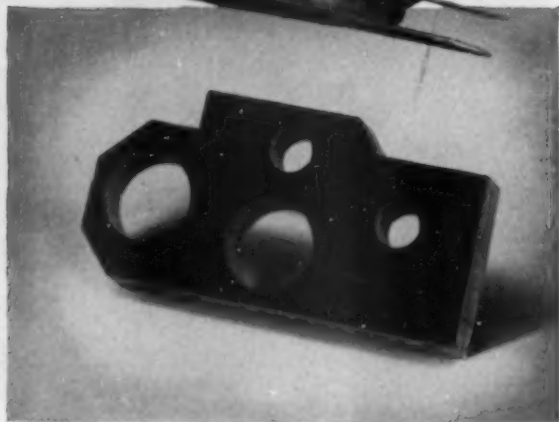
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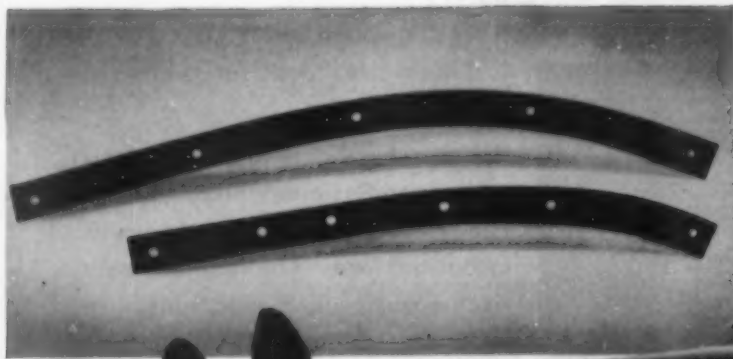


*Twin-engine speedster for executives, the Piper "Apache" uses, among other parts of Taylor materials, a resistor terminal board made of Taylor Grade C . . . chosen for its high strength and good insulating properties.*



*Flashing fighter, the North American F-86 Sabrejet contains more than a dozen different parts made of Taylor materials. This multiple fuel line clamp, for example, is made of Taylor fabric base laminate, chosen for its mechanical strength and resistance to extremes of temperature and humidity.*

## Here's how the aviation industry



*Giant among commercial transports, Lockheed's Super Constellation makes use of Taylor canvas base phenol laminate in the sealing strips on the crew door . . . an application where this flexible, long-wearing material proves a most effective answer to the designer's problem.*



### **New Taylor Copper-Clad Laminates.**

Taylor GEC (glass-epoxy) Copper-Clad & Taylor XXXP-242 cold punching (paper-phenol) Copper-Clad. Taylor uses high purity rolled copper on base materials with outstanding electrical properties.



**Mighty missile**, the Martin Matador uses resistor boards of Taylor Grade GEC (glass-epoxy) laminate. The resistor board assembly shown is for one of six flight control boxes in the missile. Heat and humidity resistance, stable electrical properties and mechanical strength make this Taylor laminate well suited for such especially demanding applications.



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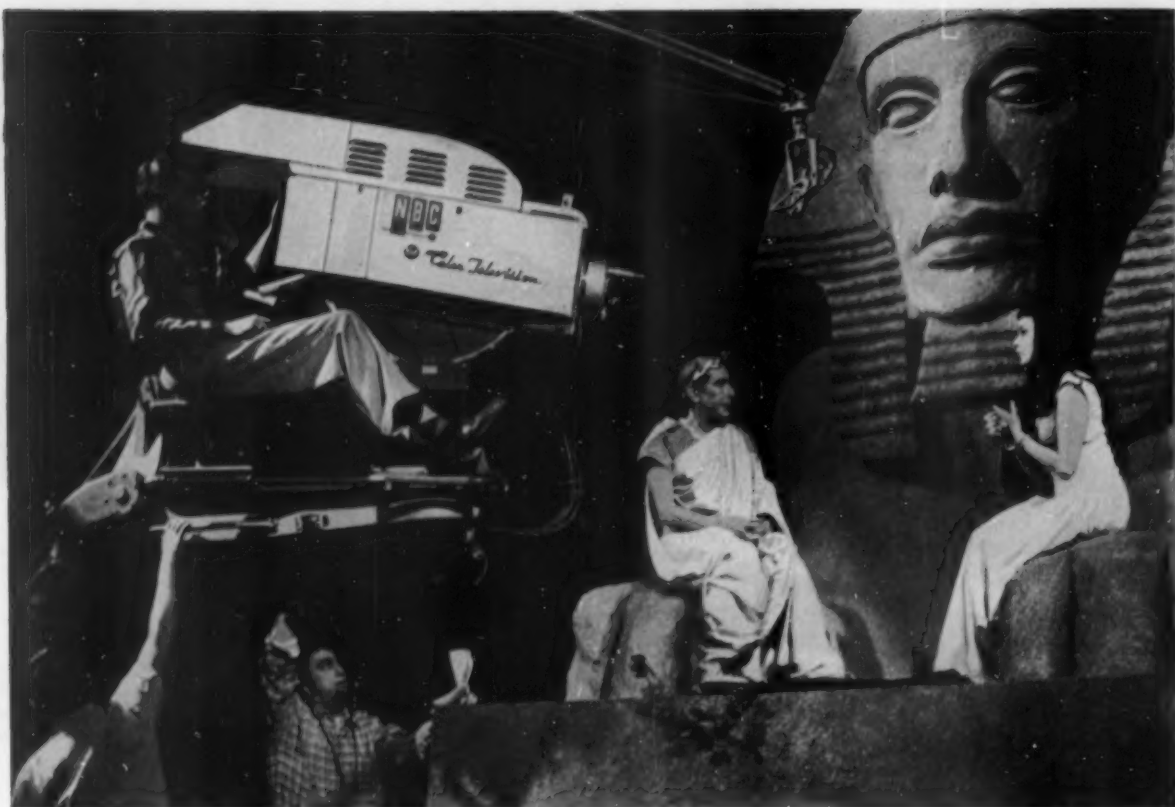
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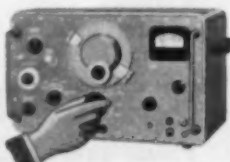
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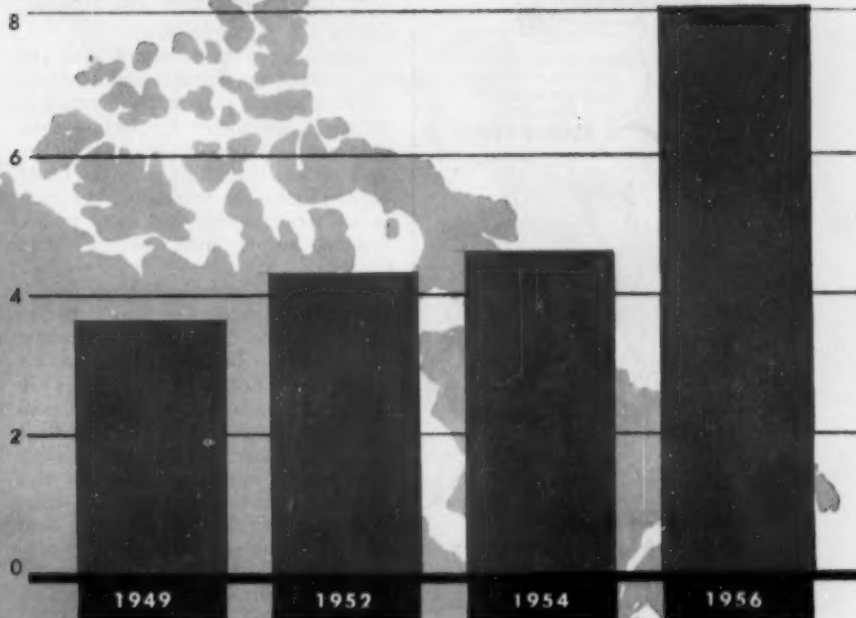
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## Capital Spending Soars

Total Capital Expenditures in Billions of Dollars



Data: "Private & Public Investment in Canada Outlook, 1956"—Dept. of Trade & Commerce.

## Inflation Fears Dog the Boom

CANADA is in the throes of the fastest moving boom in North America. As in the U.S., this boom is fueled by capital expansion, which is outstripping even the most optimistic growth estimates (BW—Sep. 15 '56, p. 166). But as the boom rolls along, it is dogged by the threat of creeping inflation.

Since the summer, this has become increasingly obvious even to the Canadian man-in-the-street—not because of any control over consumer prices, but because of an all-round tightening up of money supplies.

• **Paradox**—This means that the Dominion must face up to restrictions at a time when it is expanding faster than any other country in the world. Canada's capital outlay for 1956 has been estimated at \$8-billion, or \$2-billion more than in 1955. Even the capital expansion estimates of earlier this year—that growth would be 21% higher than in 1955—were upped to 28% in July by a Bank of Montreal survey. A big share of this year's forecast won't be achieved until 1957; and limited Canadian money and labor potential won't see the country through without inflation unless controls are introduced.

• **Widespread**—By fall, it was certain that Canada's expansion program was

outrunning the money and labor available to carry it out. These dangers are now widespread. For example:

• **Mortgage money** is almost impossible to get. When you can find it, the going rate is 6% to 6½%—and there's speculation that it will reach 7% by Christmas.

• **Construction** starts were down 17% this September over the same month in 1955, in spite of this year's 24% increase in contracts over 1955. Principal Investments, Ltd., one of the big Toronto shopping center promoters, is reported to have canceled plans for three shopping centers in Ontario.

• **Loans to individuals** from chartered banks are becoming a thing of the past, as far as volume is concerned—unless the customer has sounder-than-usual collateral. This week, the going rate on prime loans is up from 5½% to 5½%. This is the third boost in the chartered bank interest loan rate since last April—the highest prime interest rate in Canada since 1935.

• **Both the bond market and the traditional peppy speculative mining market** are in grim shape. Bond houses in Toronto offering better yields than have been seen since 1936 can't sell issues. There's not enough money left.

• **Consumer loan companies** that have been unsuccessful recently in getting government O.K. on an interest rate hike are talking about common stock issues; but the loan companies are getting it in the neck coming and going. The banks haven't money to lend them at the old low interest rates, and capital deficiencies make it impractical to float a stock issue at this time.

• **Pulling the Strings**—Tightening up the money supply is the Bank of Canada and its worried governor, 46-year-old James E. Coyne. In the last few months, Canadian banks have had to buy money from the central bank at an increasingly higher discount rate. Since last fall, five increases have brought the bank discount rate from 1½% to 3½%. And last week, the bank announced the sixth increase—to 3½%. (In the U. S., the Federal Reserve Bank in five steps increased its discount rate from 1½% to 3%.)

• **Other Moves**—Here are other actions the bank has taken:

The Canadian government is offering the public a further incentive to save money. Coyne himself announced the unusual "stepped-up interest scale" on the current eleventh Canada savings





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bond issue. That is, the coupon rate increases from 3½% until it reaches 3¾% after which it will carry a coupon rate of 4% for seven years.

Closed meetings between Coyne and the heads of the Toronto and Montreal stock exchanges may mean increases in margin requirements for buying common stock. Margin at present is 50%—up from less than 20% since the boom began about seven years ago. "We want to see more savings and more people hanging on to their savings," says Coyne.

• **Voluntary Controls**—Behind this is a reported urge on the bank's part to try to get the Canadian retailer—who did a rushing business of almost \$9-billion in the first eight months of 1956—to agree to some sort of voluntary control over installment buying. With a federal election coming up, possibly next spring, any suggestions on this point might have strong political repercussions. Moreover, retailers are dead set against any so-called voluntary controls right now, since what they expect will be the biggest Christmas buying spree ever is a mere six weeks away.

Coyne recently spent a weekend in closed conferences with the heads of about 90% of the consumer loan companies in Canada. While no firm pronouncement was made, these officials agreed that they would institute as a body "voluntary brakes" on credit extended during the Christmas spending season. Either the basis for granting loans would be narrowed, or the companies would curtail business operations.

This sort of activity between Coyne and heads of independent loan companies is a prime example of that "moral suasion" that the Bank of Canada can—and does—exert.

• **FRB Counterpart**—The Bank of Canada was created by the late Prime Minister Mackenzie King in 1935 as the central regulatory government bank of Canada. It acts in the classical banking fashion, based on the Keynesian theory on the necessity of a central, regulating bank in free economies.

Basically, the Bank of Canada and its U.S. counterpart, the Federal Reserve Bank, are similar functionally, but differ mechanically in some respects. Both originated as a result of a similar depression experience—namely, bank failures. The Bank of Canada is supposed to be independent of the Minister of Finance, as FRB is supposed to be independent of the Secretary of Treasury. But the Bank of Canada is less subject to political or public pressure. It never deals with the public as FRB may do. However, the main differences are in customs and practice rather than in purpose.

• **Chief Functions**—The Bank of Canada has three basic functions:

• It has the power to control the

money supply of Canada by controlling the reserves requirements of the country's chartered banks.

• By playing about at the margin of the open market, it is big enough to restrict or expand the credit base, and has done so in the past.

• It can—and is—exerting influence on the chartered banks to tighten up on their lending policies. Unlike the U. S., where nationwide banks do not exist as they do in Canada, a tradition of sitting down together and talking out monetary problems has been set up among the presidents of Canada's chartered banks and the governor. "Moral suasion" is a powerful factor in Canada, and the bank will call together not only chartered bank heads, but insurance company, loan company, brokerage executives on a "get the boys together and persuade them" basis.

• **Head Man**—Presiding over these functions is James Coyne, a reserved man who says, "I never see much point in talking about myself. It's the job that's important, not the man." For a man who finds economic problems more stimulating than personal conversation, Coyne—considered Ottawa's most eligible bachelor—is an easy speaker, and is active in the Canadian Club, local university work, and the intellectual endeavors around the Dominion's capital.

Coyne started his career as a lawyer in his native Manitoba, where he won a Rhodes scholarship. Since 1938, he has worked on Canadian government advisory and fact-finding commissions, and for government departments. In that year, he decided to give up law and become an economist. In 1940, as secretary to the wartime Foreign Exchange Control Board, he became involved in Canada-U. S. financial matters, later went to the Canadian Embassy in Washington as Financial Attache, and was one of the originators of the Hyde Park Agreement of 1941. In 1942, he was secretary of the head of Canada's wartime Prices & Trade Board, and in 1951 became Deputy Governor of the Bank of Canada. In 1954, he succeeded Graham Towers, the first governor of the bank.

• **Reaction in U. S.**—Perhaps the most direct repercussions that Coyne's tight money market has on the U. S. is the present trend of financially needy expanding Canadian municipalities to pay their way by offering municipal debentures for sale in the U. S., rather than in Canada. This week, Ottawa is negotiating sales of an \$8-million debenture issue in the U. S., where it now has to go to get an interest rate below 5%.

• **More Controls?**—What concerns Canadian industry at this point is not so much the present basic and un-





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# Rockwell Report



by W. F. ROCKWELL, JR.

President

Rockwell Manufacturing Company

**T**HE 39TH ANNUAL MEETING this week of the American Gas Association in Atlantic City has focused attention on the tremendous growth of the industry since the gas light days. Millions of people

who enjoy daily the comfort and convenience of gas are surprised to learn that what is now the sixth largest industry in the United States was—not too long ago—an unwanted by-product, a nuisance to be disposed of.

Gas has become the fastest growing American industry for three very basic reasons. First, to quote the Gas Equipment Manufacturers Committee, it is "7 ways better for the 7 big household services." Second, it is vital to so many industries. And third, the men who have led the industry have been men of unusual vision and ability—qualities which have also made them leaders as citizens on both the local and national scene.

While this is the fortieth anniversary of our Rockwell-Nordstrom valve—the most widely used valve in the gas industry—our gas meters and regulators were serving the industry many years earlier. In fact, one of the meter companies which formed the nucleus of our organization was producing gas meters as far back as 1883.

We began as producers of basic measuring and control devices for gas. Through research leading to better products and through effort leading to better service we have grown with the industry. We hope to continue to do so.

\* \* \*

We have always done our best to support, in a practical way, the industries we serve. That is why natural gas air conditioning was built into the four newest Rockwell plants, and has been specified for two others soon to be built.

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*Concurrently with the considerable expansion of our field sales force, we have also expanded and completely revamped our sales training program for both new men and veterans. The most recent class to be graduated from the intensive three-month course was trained especially for service to the gas industry.*

\* \* \*

The wide variety of industrial gas applications in use today, and the growing need for in-plant metering, often raise the question of what type of meter to use for a specific application. To help plant engineers and operating people with this problem, our Industrial Meter Division has compiled an easy to follow meter check list broken down by types of applications, including those requiring special meter construction.

\* \* \*

For obvious reasons, the first person singular has never been used in these reports. This paragraph is a necessary exception simply because I don't know how to avoid it in saying how much I appreciate the encouragement and practical help given me by gas industry men during my term, now ending, as president of the Gas Appliance Manufacturers Association. It has been a good year for me and, I hope, a reasonably constructive one for the Association.

*One of a series of informal reports on the operations and growth of the*

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avoidable financial controls over credit and capital, but what control techniques over the whole economy the government might take if inflation gets worse.

This is probably a bigger worry in Canada than in the U. S., because of the almost unqualified success with restrictive measures that the Liberal Party had during World War II and the Korean emergency. Excess profits and sales taxes as well as controls over physical expansion such as nonessential building were clamped on hard, and got results. An example was the 1951 "deferred depreciation" regulation. This plan deferred the right to charge depreciation for tax purposes for four years on investment that was unrelated to defense and its basic industries.

• **Adds**—Right now, however, it seems unlikely that such extremes will be taken. Canada doesn't have a defense emergency on its hands. While money is tight, the average consumer still has lots to spend. Employment, at an all-time high, has a critical shortage of skilled manpower on all frontiers of capital expansion. Retail sales over-all were 7.8% higher in the first eight months of 1956 than in the same period in 1955. The general sales manager of one of the nation's biggest retail chains says that department store revolving credit accounts are down now only because "everyone is bargain-hunting for a 1956 car."

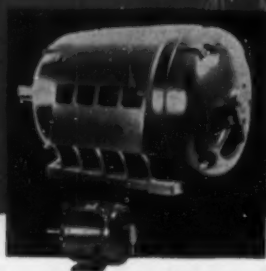
Consumer debt is running about 2% ahead of that in the U. S. As a percentage of disposable income (excluding mortgages) it stood at 13.5% in 1955 compared with 12% in the U. S. Total mortgage debt outstanding is over four times what it was the year after the war ended.

• **Election Factor**—At what point Coyne and possibly the heads of Canada's banks would take action other than requesting voluntary controls may hinge on Canada's federal election. The date hasn't been announced yet, but it may come next spring.

Since the Bank of Canada can hardly operate without the support and guidance of Minister of Finance Walter Harris, a Liberal, stronger measures at least in favor of consumers are out of the question. And it's most unlikely that either the 21-year-old Liberal government or the aspiring Parliamentary opposition are going to support any more controls than they have to until the election results are out.

Meantime, Coyne faces a dilemma. If Canada's boom keeps up its present pace between now and next spring, he may have to go to the government with more drastic proposals, election or no election. **END**

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# Reds Step Up Play for Canada's Trade

● Spurt in Soviet bloc interest sends a flood of official trade delegations through the country.

● Earlier wheat deals have brought a sixfold boost in Canada's exports to Red bloc—though imports lag.

● Now there's a change in pattern, with new missions eyeing Canadian machines, ships—and buying power.

If the current flood of official Soviet bloc visitors that's spreading across Canada doesn't bring a boom in Canadian-Soviet bloc trade, it won't be for lack of trying on the part of the Reds. Though the prospect of any big new era in trade relations between Canada and Communist Europe is still remote, Soviet trade interest in Canada has taken a relatively sudden spurt.

Some Canadians, watching the delegations trail each other across the country's plains and mountains, are wondering whether the interest of the Communist visitors is limited to Canada. There's speculation, not confined to Canada, that the real object of the Reds' attention may be south of the border—with a boost in Canadian trade as bait to soften up the U.S.

Whatever the reason, in the last three months Canadians have watched these batches of comrades make their way from coast to coast—besides professional groups that came just to see what Canadian colleagues were doing:

- From Russia—Soviet fisheries experts led by fisheries minister Alexander Ishkov.

- From Czechoslovakia—a wheat delegation headed by Eduard Mandak, deputy minister of food processing.

- From Poland—a team of trade ministry officials to set up Toronto and Montreal sales agencies.

- From Hungary—a trade delegation headed by Tibor Barabash, chief of the foreign trade division of the trade ministry, to look at farm products.

Red China is conspicuous by its absence. But Peking's trade officials are expressing keen interest in Canadian-built coastal freighters and farm machinery.

- **Hunger**—The emphasis on fish processing equipment, ships, and sales agencies on the part of recent visitors seems to signal a change in the pattern of Communist Europe's trade dealings with Canada, as well as a new effort to boost over-all trade.

Today, except for a lucrative Czech trade in consumer items, the basis for most trade between Canada and the Communist countries is the latter's desperate need for food grains. Wheat

deals concluded late in 1955 and early this year sent the dollar figure of Canadian exports to the Soviet bloc on a swift upward climb.

In the first seven months of 1956, Canada exported \$59-million in goods to Red Europe—more than eight times the \$7.1-million figure for the same months of 1955. Of the 1956 total, \$38-million was for wheat and barley.

But the trade is pretty much one-way. Canada's imports from the Soviet bloc in 1956's first five months came to a paltry \$2.8-million. In all of 1955, they reached only \$4.8-million.

- **Comparative**—This year's spurt in Canada's Red bloc exports put the country far ahead of the U.S. in this respect. In the first six months of 1956, U.S. exports to the Soviet bloc totaled \$7.3-million (topping the \$5.5-million of first-half 1955). But U.S. imports from the Soviet bloc far exceed Canada's—\$39.9-million in the first six months of 1956, \$30.5-million in the first half of 1955.

- **Major Customer**—The boost in Canada's sales also means that Communist Europe has now become a major, long-term customer for Canadian wheat.

Wheat provided a twofold basis for the first postwar Canadian-Soviet trade pact signed last spring (BW—Mar.10-'56,p132). Russia's grim need for more wheat to tide over inadequate domestic harvests was matched by Canada's urge to be rid of some of its huge wheat surplus. For Canada, the pact means minimum sales of 1.2-million tons of wheat over its three-year term, and a maximum total of 1.5-million tons. The Soviet mission failed to break Canada's long-standing policy of selling wheat only for dollars, but the Russians got a most-favored-nation clause that puts Soviet goods coming into Canada on the same tariff basis as U.S. goods.

The Soviet-Canadian treaty is supplemented by agreements with East Germany, Poland, Czechoslovakia—and soon, Hungary.

- **Fish and Ships**—But up to now Red trade dealings have involved little besides food grains—with one big exception in successful Czech participation in Canada's 1955 International Trade

Fair. Signs of a change came with Poland's strong play for Canadian buyers at this year's Canadian National Exhibition—with everything from books to cement and commercial chemicals.

Last month the Russians, too, went off on a new tack, when the fisheries mission ordered from John Inglis Co. of Toronto a \$500,000 plant for making frozen fish sticks (BW—Sep.22-'56, p165).

Soviet fisheries minister Ishkov, who flashed a \$200,000 bankroll of Canadian dollars, also approached a major West Coast Canadian shipyard—the Burrard Dry Dock Co. He wanted to order 50 trawlers of a specialized design, for a total of \$11-million.

- **Strategic Barrier**—That brought him up against Canada's ban on shipment of strategic materials to the Soviet bloc, which prevents sale of merchant ships. There are indications that Canadian shipyard owners, with the Korean emergency past and NATO naval building nearing an end, may try to lobby the government into relaxing the ban.

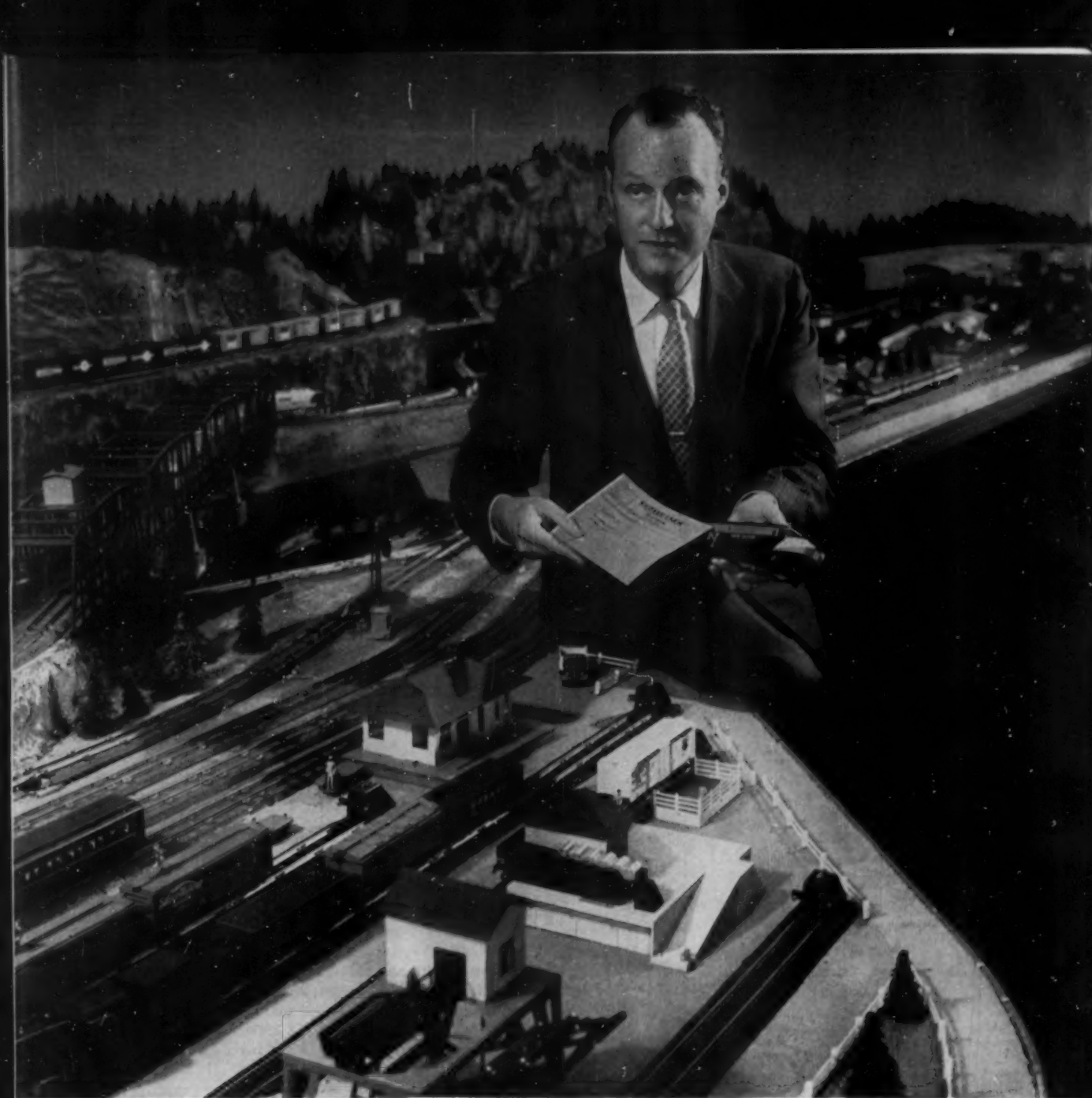
Working against relaxation, however, is the feeling of many of Canada's NATO allies that Russian interests in powerful modern trawlers is not confined to commercial necessity.

- **Question Marks**—So far, it is the Czechs who have been putting on the biggest show outside of the agricultural part of the trade setup—and their activities give the best clue on the question of the possibilities in consumer trade in the Canadian-Communist exchange. After the Czechs sold out their complete display at the 1955 show, the head of the machine tool division of the Czech state machinery monopoly took up swank hotel headquarters in Toronto, offered special warranties, spare parts replacement in Canada, installment buying. In six months, Czech machine tool sales had doubled the 1953 figure.

Some Canadians, however, look not to Red Europe but to Red Asia as the real source of a boom in trade. They see Red China, for example, as the biggest future potential market for farm machinery. But this raises a fundamental question: Where would Red China get the dollars to pay?

Other Canadians pose another question about the whole matter of Red trade. Recently a senior member of the Soviet Embassy in Ottawa was asked to leave after trying to pry out secret information about Canada's new, ultra-sonic CF-105 fighter. With Iron Curtain embassy staffs twice as large as at the time of the 1946 spy trials, these Canadians ask if trade really comes first in Moscow's aims. **END**





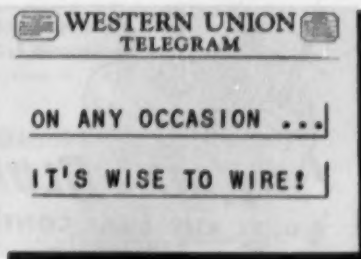
*A. C. Gilbert, Jr., President of A. C. Gilbert Co., as photographed by Peter Benceh*

## A. C. Gilbert, Jr., puts a new Diesel on the track with telegrams

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# In Canada

## Canadians Gain Chance to Buy Shares In Fruehauf Trailer's Subsidiary

Mounting pressure in Canada against U. S. control of its most dynamic industries (BW—May 5 '56, p. 50) resulted last week in an offer by one U. S. firm for Canadians to buy into its subsidiary there.

Fruehauf Trailer Co. is making available about a 19% interest in Fruehauf Trailer Co. of Canada, Ltd., through an offering of 100,000 out of 900,000 shares of common stock in the subsidiary and \$3.5-million in debentures, carrying warrants to purchase 25 shares per \$1,000 debenture.

The move follows an amendment to the U. S.-Canada Tax Convention, ratified by the Canadian Parliament but still awaiting Congressional blessings. This will make it possible for a U. S. company to own as little as 51% of its Canadian subsidiary and still pay only 5% withholding tax to Ottawa on earnings taken out of Canada.

Up to now, the levy has been 15% for less than 95% U. S. ownership, 5% only if U. S. control represented more than 95%—which, it has been felt, encouraged a situation in which the U. S. parents held virtually all their Canadian offspring 100%.

## Toronto Contract Points to Completion Of Financing for Trans-Canada Pipe Lines

Trans-Canada Pipe Lines, Ltd., this month inked its biggest Canadian contract—to sell up to 165-million cu. ft. of gas daily to Consumers' Gas Co. of Toronto—and gained new impetus for financing the \$375-million, 2,240-mi. pipeline now under construction to bring natural gas from the Alberta-Saskatchewan border to eastern Canada.

Federal and Ontario provincial governments will build the \$125-million stretch of pipeline across the uneconomic wilds of northern Ontario and later sell it to Trans-Canada. The \$250-million remainder will be financed by T-C itself, although how much will come from private and how much from public sources is not yet known.

In any case, it now appears that, with this financing imminent, the company will draw less than \$40-million of the \$80-million Ottawa agreed to loan for 575 mi. of line into Winnipeg.

## "Help Wanted" Signs Sprouting As Canadians Leave Home for U. S.

When all 10 of Winnipeg's aircraft engineers signed up to join 150 engineers lured away from Canada by a U. S. firm, it was symptomatic of a migration trend that has Canada worried.

Low temperatures and low wages in the Winnipeg area are pushing a steady flow of skilled laborers southward, with no U. S. immigration quota on Canadians to deter them.

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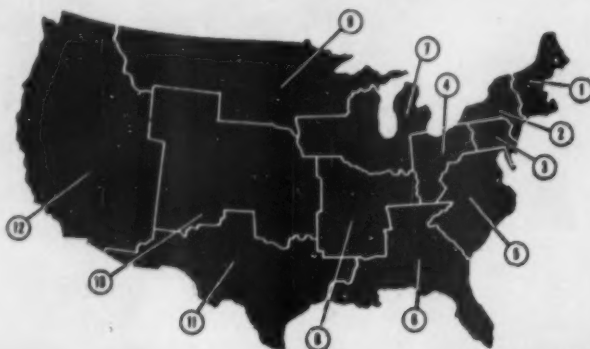


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## REGIONS

### The Income Pattern: Business Week's Regional Income Indexes

## U.S. Incomes: Up 6.4% From Last Year



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Federal Reserve District	% Change vs. year ago	August 1956	July 1956	August 1955
1. Boston	+8.4%	276.1	272.7	254.8
2. New York	+5.8%	294.8	288.9	278.6
3. Philadelphia	+5.3%	289.4	284.4	274.8
4. Cleveland	+5.1%	337.6	333.8	321.1
5. Richmond	+6.9%	363.3	355.7	339.7
6. Atlanta	+7.5%	448.5	447.0	417.2
7. Chicago	+4.2%	342.1	337.8	328.4
8. St. Louis	+5.1%	326.7	324.3	310.8
9. Minneapolis	+5.6%	342.6	345.9	324.4
10. Kansas City	+2.2%	398.9	399.7	390.4
11. Dallas	+7.4%	480.3	484.5	447.4
12. San Francisco	+11.4%	400.2	392.1	359.2
Nation	+6.4%	346.3	342.2	325.6

1941 = 100; adjusted for seasonal. August figures preliminary; July revised.

## Back on the Upward Beam

U.S. incomes in August resumed their upward march after a one-month dip, reaching an all-time high, and topping the year-before month by 6.4%, according to BUSINESS WEEK's Composite of Regional Income Indexes. The San Francisco region, which has been gaining steadily, scored the biggest jump from August to August, a fat 11.4%. Boston was second with 8.4%, partly because the comparison was being made with the region's worst 1955 month. At the bottom of the scale were Kansas City, up only 2.2%, and Chicago, up 4.2%.

August incomes compared with the preceding July were up 1.2%, the largest month to month hop in just over a year, with an assist from the general recovery from the steel strike.

San Francisco and Richmond tied for leadership in the July-to-August climb, at 2.1%. New York scored 2%, its best showing in 13 months. For all three of these regions, August was the best month ever.

Three regions—Minneapolis, Kansas City, and Dallas—had August incomes that dipped below July. State statistics in Minnesota—the biggest slice of the Minneapolis region—cast additional light on the situation there. The state showed some gain in employment for August, thanks to the end of the steel strike. But much of this was canceled out by the continuing idleness of 6,500 workers in metal mining and 1,500 in transportation (mostly Great Lakes seamen) due to a labor dispute that tied up the ore ships. **END**



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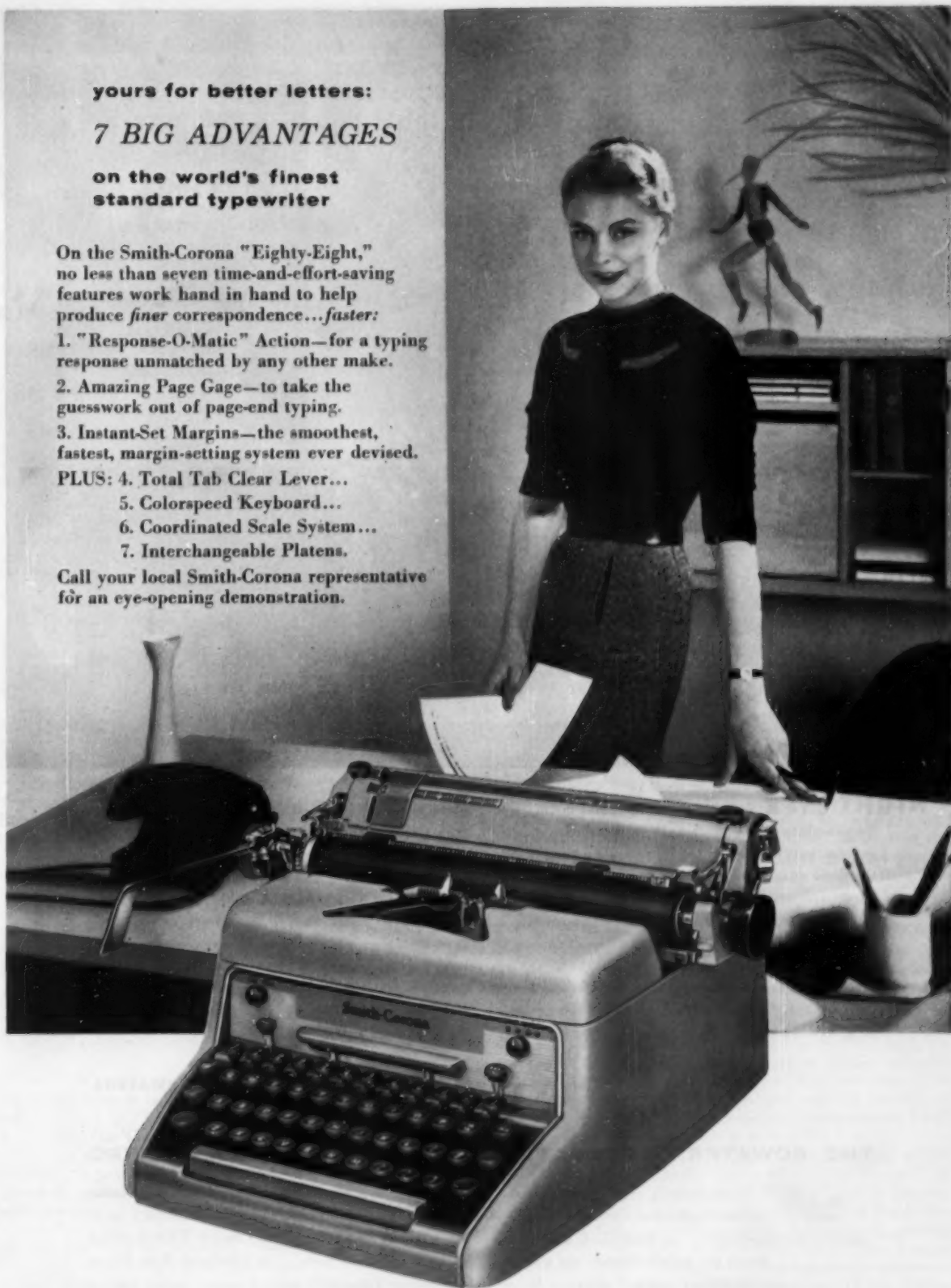
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# How Prosperous Is Prosperous?

● In their 1956 platforms, the Republicans and Democrats collide violently in viewing the U. S. economy.

● They might be describing two different countries, one flourishing, the other floundering.

● Here, McGraw-Hill Economics Department lines up the conflicting claims against the figures.

To listen to the fevered campaign talk that is pushing the political mercury ever higher these days, the U. S. isn't one nation, indivisible, but two separate countries with two mutually unrecognized economies. It all depends on which soapbox you surround—the pointing-with-pride Republican or the Democratic viewing with alarm.

If the orator likes Ike, the nation never had it so good. If he's a spokesman for the Democratic outs, wanting back in, the economic fabric is riddled with holes.

Where, in this collision of contradictions, does the U. S. economy stand? This week the McGraw-Hill Dept. of Economics, using mainly official government statistics, came up with an answer.

The basic disagreement, not unnatural in a Presidential election year, goes right back to the platforms adopted last August by both major parties.

• **The Roses . . .**—From San Francisco's cavernous Cow Palace emerged a rosy Republican view of the economy, pictured in terms like these:

• "Good times in America have reached a breadth and depth never before known by any nation . . . a prosperity of a nation at peace, not at war . . . More than 66-million people have full-time jobs, with real wages and personal income at record highs."

• "The farmers . . . are at last able to look to the future with a confidence based on expanding peacetime markets instead of politically contrived formulas . . ."

• "We are proud to have fulfilled our 1952 pledge to halt the skyrocketing cost of living . . ."

• **. . . and the Thorns**—To the Democratic platform writers in Chicago, however, Republican prosperity was a brand the public shouldn't buy. Typical statements:

• ". . . this Republican prosperity product has been an illusion . . . fever signs are evidenced by soaring monopoly profits, while wages lag, farm income collapses, and small business failures multiply at an alarming rate."

• "The fact is that our over-all

rate of growth has been crippled and stunted . . . unemployment has grown . . . the Republican claim that this . . . is the price of peace is a distortion."

Are the American people enjoying prosperity or not? And which political party can claim the better economic record?

Economists might argue from now until doomsday about how to select the criteria for judging and measuring each party's economic performance—which Democratic years are to be measured against the last four Republican years; whether, in an economy as free as ours still is, either party can claim responsibility for everything that happens in the economy; whether years should be called Democratic or Republican just on the basis of who is in the White House, and without concern for which party dominated Congress or controlled particular states, and so on.

But since the politicians insist on arguing now, not on doomsday, about whose record is better, the McGraw-Hill Dept. of Economics accepted the problem on the politicians' own terms and did the most objective job it could to stack the last four Truman years, 1949-52, against the just-ending four Eisenhower years, 1953-56. They found support for the Democratic charge that economic growth, measured by GNP, has slowed down since 1952. GNP increased an average of 7.8% annually in 1949-52, only 4.5% in 1953-56.

But this doesn't take into account either inflation or the ups and downs in spending for national security (defense, foreign aid, atomic energy, and minor related federal expenditures). When national security outlays are subtracted from GNP during the two Administrations, to indicate how much was actually available for use and enjoyment of the civilian population, the Republicans come out on top—with an average annual climb in this adjusted GNP of 5.7%, against 5.4% in the years 1949 through 1952.

• **Deleting Inflation**—To remove inflation as a factor, the analysts applied to the adjusted GNP figures the year-by-

year consumer price index—which increased at an average annual rate of 2.6% under the last Democratic Administration, compared with only 0.5%, since the GOP took command.

The result—an adjusted, deflated GNP—shows a growth in the economy averaging 5.1% per year in 1953-56, a substantial improvement over 2.8% under the Democrats.

If the consumer price index is replaced with separate price adjustments for individual segments of GNP—government spending, various types of private investment, and consumer spending—the conclusion remains essentially the same. The average annual increase, on this basis, was 2.7% in the four Democratic years, 4.4% in the Republican years.

There were gains, too, in real disposable income per capita, another gauge of whether the economy is growing and living standards rising. These figures, obtained by adjusting total personal income for changes in purchasing power and population, show an increase from \$1,526 to \$1,700, or 14% per person, in the last four years.

Under the Democratic Administration, 1949-53, the rise was 7%, from \$1,424 to \$1,526, or half the Republican percentage gain.

• **How Many Jobs?**—When the GOP platform's authors claimed that "more than 66-million people have full-time jobs," they hit a foul ball. In July, employment totaled 66.7-million, but not all on a full-time basis. But the employment estimate for this year is 65-million, full-time and part-time—a record high.

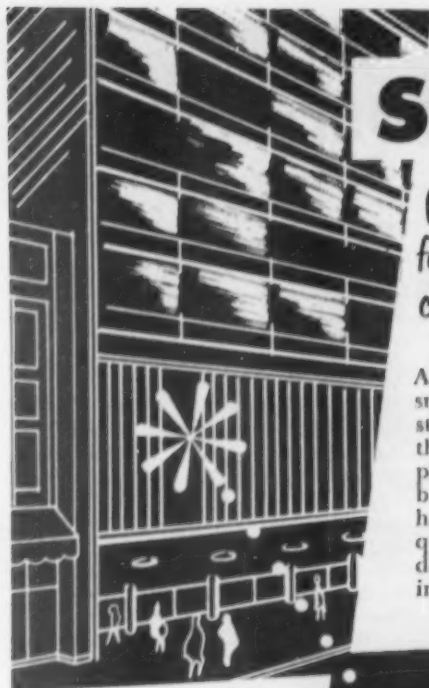
Almost twice as many new jobs were provided in 1953-56 as in 1949-52. Since Republicans moved into the White House, the number of employed has jumped about 3.7-million, compared with an increase of a little less than 2-million under the former tenants.

Democrats are correct to complain about unemployment levels currently higher than when they left office. Out of work this year are an average of 2.6-million people, approximately 1-million more than in 1952.

But unemployment averaged almost exactly the same—2,522,000—in 1949-52 and in 1953-56. However, employment and the civilian labor force were growing in both these periods, particularly in the last four years. So, on a percentage basis, unemployment accounted for a smaller proportion of the civilian labor force in 1953-56 than it did in the years 1949-52.

• **How Much Pay?**—Before taxes, pay





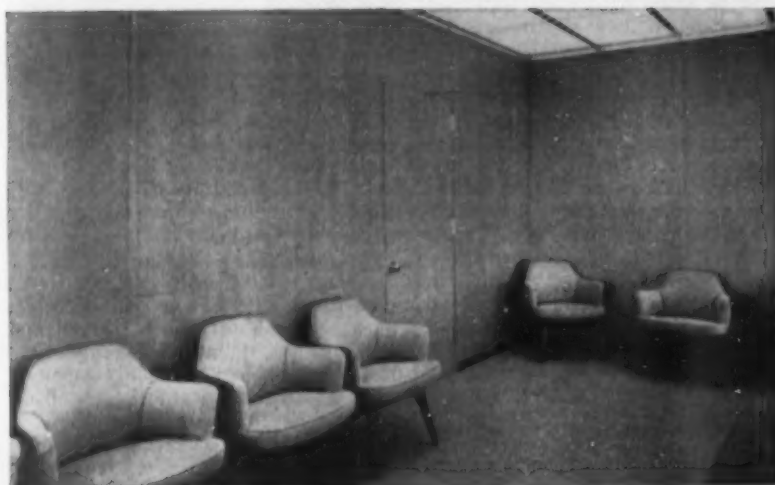
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envelopes brought home by the record army of the employed grew fatter by \$54-billion, or 38% between 1948 and 1952. In the next four years, total compensation of all wage and salary workers has been increasing somewhat more slowly—\$43-billion, or 22% to an estimated 1956 sum of \$238-billion.

Figure in the effects of inflation, however, and the picture changes. With this adjustment, the increase in wages and salaries under Democrats was only \$2-billion better than under Republicans, instead of \$11-billion; in percentage terms, it was 6 points more, rather than 16.

Wages and salaries, in total, have accounted for about 70% of the national income in the last four years, or a 5% bigger share than in any of the years 1949-52.

• **In the Factories**—During the Democratic Administration, average weekly wages of factory workers went up from \$54.14 to \$69.97, a 26% boost. In both dollar and percentage terms, the increase since then, to this year's estimated \$80, has been slightly smaller. In real terms it has been bigger. When allowance is made for price increases, the weekly figure traveled up only about \$8.30 between 1948 and 1952, against more than \$10 since then, and without longer working hours.

Small businessmen and the professionals have been doing better in the last four years than in the previous four, although their share of the national income has slipped steadily since 1949, when it was 9.9%. It will be 8.5% this year.

Adjusted for changes in what a dollar will buy, the income of unincorporated businesses and professions rose almost \$2-billion (7%) between 1948 and 1952, nearly \$3-billion (10%) from then until 1956, when it attained an estimated \$28.6-billion.

• **Corporations**—Corporation profits before taxes formed a larger share of national income, 14%, under the last Democratic Administration than with Republicans at the helm, when the share has averaged a little more than 12%.

In actual dollars, pre-tax corporate profits averaged \$36-billion in 1949-52 and \$39-billion in 1953-56. However, an adjustment for inflation brings the conclusion that real pre-tax profits were higher under the Democrats. The same is true of profits after taxes.

More businesses are failing these days, the Democrats charge. And they're right, according to Dun & Bradstreet figures on the subject. But the number of business incorporations is also going up—in the last four years 11 new businesses sprouted for every failure, against 10 for each failure in the Democratic Administration.

• **The Farmers**—The Democratic plat-



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FIG. 375—Bronze "White  
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form is on safe ground in its references to declining farm income.

Net income of the farm population declined steadily from 1951 through 1955, although recent trends suggest the slipping has come to an end. The average net income from agriculture was \$16.3-billion during the Democratic years 1949-52, only \$14.2-billion in 1953-56.

• **Outside Jobs**—In the same periods, the per capita drop has been less—from \$657 to \$638—because the number of farms and farmers has been declining. Those farmers who stayed on the land supplemented their incomes by working in other jobs in greater than ever numbers. Their take from nonfarm sources rose from \$224 annually to \$271 per capita in the two Administrations.

This raised per capita farm income in 1953-56 slightly above the 1949-52 average. But it can be argued that farmers would not have found it necessary to seek jobs away from the home acreage if farm income had not fallen.

• **The Balance**—Assessing the economy's current condition, the economists find gross national product (\$410-billion), total employment (65-million), and disposable income per capita (\$1,700) all at the highest levels in history. So is the consumer price index (116, using 1947-49 as 100).

The official statistics, the McGraw-Hill economists found, add to these conclusions:

• Over-all economic growth, measured by annual increases in GNP, was greater in the four Democratic years. But if the effects of rising prices and defense programs are removed, the increase was greater under the Republican Administration.

• Unemployment is higher now than in 1952, but average unemployment was almost identical in the two four-year periods. As a percentage of the labor force, unemployment was lower under the Republicans.

• Wages and salaries rose faster under the Democrats, though their advantage is much smaller if the effect of inflation is removed. Factory wages rose faster in dollar terms under the Democrats, but faster in real terms under the Republicans.

• Corporate profits, both before and after taxes, accounted for a larger share of national income under the Democrats. In dollar terms, profits have been higher under the Republicans; in real terms, they were higher under the Democrats.

• Business failures have increased under the Republicans; but incorporations of new business increased more.

• Farm income, on almost any basis, has been lower under the Republicans.

• The over-all economy has now reached a record high. **END**



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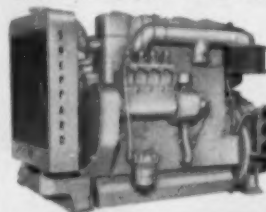
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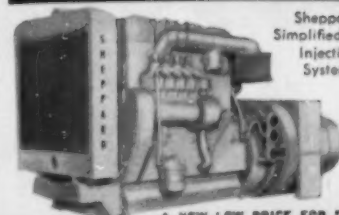


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# Communism's Flaws Start To Show

The people of Poland have dealt a grievous blow to the cause of world Communism and to Soviet imperialism in Eastern Europe (page 23). The courage of the Poles should hearten every lover of independence around the world—and should teach a lesson to the fainthearted souls in the West who have been mesmerized by Soviet power or by Communism's industrial achievements.

Only the future can reveal what's in store for Poland. There is no reason to expect Moscow, regardless of who's on top there, to let Poland slip out of the Soviet military orbit. There is little chance that in the foreseeable future Poland will develop democratic institutions, as we know them. But the two basic elements in this revolution are clearly identifiable already—(1) a popular upsurge of proverbial Polish nationalism; and (2) a popular revolt against the disastrous economic consequences of Soviet-style Communism.

We in the West can learn something from the manifest strength of these two forces in Poland. They have demonstrated the wisdom of Washington's policy of patience and the folly of those who have seen no alternative to a Communist conquest of the world or an H-bomb war. Apparently this group has been so impressed by Soviet power that they began to believe that by brainwashing the Communists could destroy deep-seated human values such as love of country.

There have also been some people in the West who have been taken in by the economic slide rule—by statistical evidence of rapid growth of heavy industry in Poland under Communism. But the benefits of this growth have not gone to the Polish consumer. Westerners who were taken in by the statistics have apparently forgotten, as both Stalin and his heirs have, that the end of production is consumption.

This, we suggest, will never cease to be a basic law of human life, regardless of any Communist gobbledegook. We suspect that if the rulers of the U.S.S.R. do not accept it soon, the people of Russia may follow in the footsteps of the Poles.

## Help for Schools

As if to compensate for its waste and destruction, war is a great stimulator of technical development. And, analogously, as if to make up for its nonsense and caterwauling, a political campaign will sometimes develop a national consensus on some issue of social or public consequence.

We seem to be reaching that sort of consensus on the issue of federal aid to education. Although important details of how federal aid should operate remain in dispute, Pres. Eisenhower and candidate

Stevenson are in basic agreement that help to state and local governments should be a federal obligation. The President moved toward that agreement when he talked about school aid in Portland, Ore., last week. "What matters now is not the argument in terms of partisan politics as to why Congress failed to enact this needed legislation," Eisenhower said.

He went on to declare, in terms almost identical with those Stevenson has been using, that when the states are unable to provide adequate educational facilities, federal financing must be forthcoming.

Although there will be some who will worry lest federal aid lead to federal control, we think the Eisenhower-Stevenson view is in accord with majority thinking in this country, where a good education is considered a bulwark of democracy.

## Tranquil Extinction

The New York Academy of Sciences assembled last week to hear some of the early results of medical research on the effects of meprobrate and other tranquilizing drugs.

In addition to hearing some extremely promising clinical reports on the use of the tranquilizers for the treatment of mentally disturbed patients, the academicians also got a philosophical lecture from novelist Aldous Huxley—who, 25 years ago in his novel, "Brave New World," ironically predicted that one day universal happiness would be assured by a tranquilizer that he called "soma."

But now, said Mr. Huxley, dropping the irony he had once assumed, the pharmacological revolution is upon us, and a wondrous future awaits the human race. "If we want joy, peace, and loving-kindness," said he, the pharmacologists "can give us loving-kindness, peace, and joy. If we want beauty, they will transfigure the outside world for us."

Of course, no scientist yet knows much about the possible side-effects that can result from continuous and heavy use of the tranquilizers. But, even if Mr. Huxley's meprobrate dreams were to come true and you could keep mankind in a state of gorgeous, thrilling euphoria, we would be against it. Because the price you would have to pay would be more terrible than any that heroin or morphine ever exacted. The price would be a sacrifice of man's very humanity. It would mean that man had given up the effort to create beauty and love out of the fierce tensions to which his nature exposes him. These tensions are born out of struggle—the psychological struggle of the individual human being with himself, and with society. End that struggle—by a "god out of the test-tube"—and you end anything that properly deserves to be called humanity.





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